UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

JUN 01 2015

Jill A. Moore
Field Manager
Egan Field Office
Bureau of Land Management
702 N. Industrial Way
Ely, Nevada 89301

Subject: Draft Environmental Impact Statement for the Gold Rock Mine Project, White Pine County, Nevada [CEQ 20150031#]

Dear Ms. Moore,

The U.S. Environmental Protection Agency has reviewed the Draft Environmental Impact Statement (DEIS) for the Gold Rock Mine Project. Our review and comments are provided pursuant to the National Environmental Policy Act, the Council on Environmental Quality Regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

The Gold Rock Mine Project, proposed by Midway Gold U.S. Inc., would be located at the site of the previously reclaimed Easy Junior Mine in White Pine County, Nevada, 50 miles east of Ely and 30 miles south of Eureka. As described in the DEIS, the mine would disturb 3,946 acres of BLM lands in the construction and operation of an open mine pit, two waste rock disposal facilities, a heap leach facility, a mill, a tailings impoundment, a 69 kilovolt transmission line and other associated facilities. EPA understands that the anticipated mining production period is 10 years, while closure and post closure activities would extend the total project life to approximately 48 years.

On October 18, 2013, in response to a request from the BLM Egan Field Office for EPA to be a cooperating agency on the Gold Rock Mine Project, EPA expressed its desire to coordinate with BLM under the existing "Memorandum of Understanding Between EPA and Nevada BLM for Mining Environmental Impact Statements" (MOU), which had been reaffirmed in April 2013. We enclosed a copy of the MOU with our response. The goal of the MOU is to encourage early coordination between our agencies and to raise potential concerns as early in the NEPA process as possible.

On November 5, 2013, EPA sent scoping comments on the Gold Rock Mine project to the BLM, including questions and recommendations regarding mine design, geochemistry, and reclamation and closure procedures. Those comments were largely based upon our review of a number of technical and baseline reports, as well as the draft Plan of Operations for the Gold Rock Mine Project, which had been provided to us by the BLM. EPA's scoping comments identified significant missing information and flaws in the analyses performed in those documents, and recommended numerous revisions before the contents of the reports were incorporated into the DEIS. In accordance with the aforementioned MOU, EPA anticipated being provided the opportunity to review revised technical reports and an administrative draft of the DEIS. This did not occur, and the next communication that EPA received

from the BLM regarding the Gold Rock Mine Project was on February 13, 2015, when the DEIS Notice of Availability was published in the Federal Register.

Upon review of the DEIS, EPA found that the document lacked substantial information on baseline geochemistry, waste rock management, reclamation and closure of the waste rock and tailings storage facilities, and hydrogeologic characterization; all of which are critical to a comprehensive understanding of the project's potential impacts upon water resources. In addition, without the aforementioned information on mine design and potential water resource impacts, we were unable to determine whether any long term post-closure monitoring and mitigation measures would likely be required for this project.

On April 22, 2015 and again on May 4, 2015, EPA and BLM met via conference call to discuss EPA's concerns with the project and the lack of critical information in the DEIS. EPA found these calls to be productive and informative. At the conclusion of the calls, BLM committed to provide EPA with a technical memorandum providing responses to EPA's concerns and identifying where in the project record much of the information missing from the DEIS was contained. EPA received that memo on May 15, 2015 (Attachment 4). We greatly appreciate the BLM's rapid and thorough response to our discussions. We find that, while the memo does not fully address all of our concerns, it does clarify several key points and provide reference to a number of plans and technical documents that contain critical information that is absent from the DEIS. BLM's May 2015 Memo also includes specific commitments by BLM to include additional detail from, and citation to, the referenced technical documents in the Final EIS.

EPA supports the practice of "incorporation by reference" in the NEPA process in order to control the length and technical detail contained in an EIS; however, sufficient summary information should be included in the DEIS to enable the reader to understand the design and impacts of the proposed project and its alternatives. Supporting documentation can then be included in an appendix or incorporated by reference, as appropriate (See CEQ's "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations" [Question 25b] for guidance on determining whether inclusion as an appendix or incorporation by reference is warranted). In this case, however, BLM did not include sufficient summary of, or citation or access to, a number of key documents intended for incorporation in the subject EIS. We believe that doing so in the Final EIS is necessary to provide a robust description of the proposed project and its potential environmental effects, and we appreciate BLM's stated commitment to include such information and citations in that document. In addition, we recommend that the BLM consider making referenced materials available in an electronic format or via download from the BLM's website. For all future projects, we strongly recommend that this be done at the DEIS stage of the NEPA process, and that any documents incorporated by reference be sufficiently summarized in the DEIS.

Based on our review of the DEIS, as clarified by BLM's May 2015 technical memorandum (attached) and materials in the project record that are referenced in that memo, EPA has rated has rated the Gold Rock Mine Project and DEIS as "EC-2 – Environmental Concerns, Insufficient Information" (see Enclosure 1: "Summary of Rating Definitions and Follow-Up Action"). Our detailed comments, including specific recommendations and remedies, are enclosed (Enclosure 2). In accordance with the aforementioned MOU and as previously discussed, EPA requests the opportunity to review a preliminary draft of the Final EIS and provide BLM our feedback before the Final EIS is published.

As discussed in our teleconferences, many of EPA's concerns related to this project are directly relevant to concerns and recommendations that were raised in our 2013 scoping letter. Because it remains unclear where certain of those concerns were addressed, we respectfully request that the sections of our October 5, 2013 scoping letter (Enclosure 3) under the headings of "Geochemistry" and "Mine Reclamation, Closure and Post-closure" be considered part of our comments on the DEIS and be addressed in the Final EIS response to comments.

We appreciate the time and resources you have committed in recent months to working with EPA to address our concerns. We also appreciate the extensions of the DEIS comment period that you granted us in order to enable that process to occur. EPA looks forward to continuing to work with you on this project in accordance with our MOU, and we are available to discuss any of our comments. If you have any questions, please call me at (415) 972-3521, or have your staff contact Carter Jessop, our lead NEPA reviewer for this project, at (415) 972-3815. Please send a copy of the Final EIS to this office (mail code ENF-4-2) at the same time it is electronically filed with our Washington, D.C. office.

Sincerely,

For

Kathleen Martyn Goforth
Environmental Review Section, Manager

Enclosures:
(1) Summary of Rating Definitions
(2) EPA's detailed comments on the Goldrock Mine Project DEIS
(3) EPA's November 5, 2013 Scoping Comment Letter
(4) "Response to EPA Comments, April 22 and May 4, 2015" (with cover letter)

cc: Amy Lueders, BLM, Nevada
Tom Olsen, BLM, Nevada
Bruce Holmgren, Nevada Division of Environmental Protection

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

U.S. EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE GOLD ROCK MINE PROJECT, WHITE PINE COUNTY, NEVADA – JUNE 1, 2015

Geochemistry

As stated in our November 2013 scoping comments, it is unclear from the *Draft Baseline Geochemistry and Waste Rock Handling Report* that sampling and testing conducted to date are sufficiently representative of the waste rock at the Gold Rock mine to accurately characterize the geochemistry and make reliable predictions about how mine rock will react over the long term. The static test sample size of 124 samples is relatively small, compared to testing done for other mine sites proposed for development on BLM land in Nevada that EPA has reviewed in the past. In addition, only eight of the 94 samples identified as potentially acid generating by static testing were carried forward for analysis in humidity cell tests. No information is contained in either the *Geochemistry Report* or the DEIS explaining why these 8 samples were deemed to be representative of the volume of waste rock with the potential to generate acid.

> *Recommendations*: In the Final EIS, address the representativeness of the samples used for geochemical characterization of Gold Rock Mine waste rock. Explain the basis for the conclusion that the limited sample pool is representative of the total volume of waste rock to be produced and disposed of by the Project. Where data from the Pan Mine were used to inform decisions related to geochemical characterization, such data should be clearly summarized and cited.

The description of the geochemical characterization and proposed management strategy for potentially acid generating waste rock materials provided in the DEIS demonstrate that substantial uncertainty remains in both respects. According to the DEIS, geochemical static test results indicate that approximately 60% of the roughly 170 million tons of waste rock material that the project will produce are categorized as potentially acid generating; however, "most of the material is expected to be non-acid generating" (p. 2-23). EPA notes that BLM's May 2015 Memo to EPA states that project geochemistry is expected to be similar to the recently approved Pan Mine project and sufficient neutralizing material would be available to encapsulate all PAG rock even in the worst case scenario. The DEIS does not contain sufficient information to assess the appropriateness of using the Pan Mine as a geochemical analog for the Gold Rock project. We appreciate the commitments made in BLM's May 2015 Memo to add a more robust discussion of project geochemistry.

Neither the *Baseline Geochemistry Report* nor the DEIS identifies the volume of rock that would be classified as "environmentally adverse" due to its non-acid metals leaching potential. Meteoric water mobility procedure testing indicates that much of the waste rock material the project would produce would likely generate levels of arsenic, selenium and thallium that exceed Nevada reference values if contact with water occurs.

> *Recommendations:* In addition to the commitments made in BLM's May 2015 Memo to EPA, provide evidence, in the FEIS, to demonstrate that the Pan Mine project represents an appropriate geochemical analog for the Gold Rock project. Identify the volume of adverse, but not acid-generating waste rock that the project is anticipated to generate and describe procedures for field identification and any necessary sorting of such materials into designated encapsulation cells.

See also the comments and recommendations regarding "Geochemistry" in EPA's November 2013 scoping comments, enclosed (Enclosure 3).

Mine Design, Reclamation, and Closure

The description of reclamation and closure of the proposed tailings storage facility (TSF) in the DEIS is incomplete. The DEIS describes the combined active/passive strategy for evaporation of the entrained solution inventory that would occur for the first 10 years after TSF closure, but lacks a discussion of anticipated tailings fluid management following those first 10 years. According to the Plan of Operations, Midway anticipates the operation of a pump-back system that would move draindown fluids from the above-liner drain system sump to the tailings surface where it would then be evaporated. This pump is estimated to require operation for 30 years. Without additional information, it is not possible to discern the possibility or likelihood that the TSF would be fully successful in the management of draindown solutions and prevention of seepage. BLM's May 2015 memo to EPA provides clarification and reference to a number of documents in the project record that provide a far more complete description of the proposed tailings closure strategy. In that memo, BLM commits to providing substantial additional information in the FEIS to describe the proposed tailings design and reclamation, closure and post-closure plans.

Recommendations: In addition to the commitments made in BLM's 2015 memorandum to EPA, ensure that the Plan of Operations and all of its appendices (and any sub-appendices thereof) relied upon for the description of the tailings storage facility design and closure strategy are made readily available for public review. This can be accomplished at minimal cost by either providing a disc containing these documents with the EIS, or by making them available for download from the BLM's website.

The DEIS states that the waste rock, heap leach and tailings reclamation would all involve the placement of a growth medium cover on regraded surfaces and seeding with a native seed mix. As noted in our prior correspondence, it is unclear how the BLM determined the necessary cover thicknesses discussed, particularly with regard to waste rock and tailings closure. We appreciate the commitment provided in BLM's May 2015 Memo to expand the description of the cover soil modeling. The Memo indicates that Midway would place a 1-foot thick layer of growth medium over the waste rock and tailings facilities. Pages 2-60 and 2-62 of the DEIS, however, indicate that the waste rock and tailings facilities would be capped with "a minimum" of 6 inches of growth medium. It is unclear whether this difference is due to error or a change in the project proponent's reclamation plan. In addition, while the Memo indicates that BLM will note in the FEIS that the heap leach cover soil modeling was "used as a guide in developing the cover thickness" for the waste rock and tailings facilities, it remains unclear what the anticipated effectiveness of this cover thickness is.

Recommendations: Specify, in the FEIS, the anticipated net infiltration rate expected for the reclaimed waste rock and tailings facilities with the proposed growth media cover. Clarify whether this cover would be 6 or 12 inches and the quantitative basis for this thickness. Describe the effect of this rate of infiltration and explain why a thicker cover that would further limit infiltration is not necessary. If the proposed cover thickness would be limited due to the lack of availability of growth media, we recommend the FEIS indicate this and disclose whether this would increase the risk that seepage would be generated by the waste rock or tailings facilities in the long term.

The DEIS states that monitoring of groundwater would be performed in accordance with a Water Pollution Control Permit (WPCP) to be issued by the state of Nevada. Figure 5 of the Plan of Operations (POO) identifies the preliminary locations for the four proposed groundwater monitoring wells, with two placed at the downgradient edge of the tailings facility and two some distance from the downgradient edge of the heap leach facility. No specific information is provided regarding monitor well sampling depth, sampling frequency, mitigation triggers, or potential mitigation measures. In addition, EPA was not able to find a map similar to Figure 5 of the POO in the DEIS depicting the proposed monitoring well locations. EPA notes that the DEIS and POO disclose the possibility that shallow perched aquifers may exist discontinuously across the project site; however the location and extent of any such hydrogeologic features is unknown. It is not clear whether the proposed groundwater monitoring wells would capture potential impacts to any shallow perched aquifers that may exist on the site. While Nevada Department of Environmental Protection is the permitting agency responsible for the issuance of the Water Pollution Control Permit, the provisions of the WPCP are relevant to the potential environmental impacts of the proposed project.

> *Recommendation:* Include additional details regarding groundwater quality monitoring. Describe the status of the WPCP and provide a summary of its requirements, if available. We recommend that the BLM require the placement of shallow groundwater monitoring wells in any perched aquifers identified or encountered on the mine site.

Hydrogeological Characterization

The DEIS contains an incomplete description of the hydrogeologic baseline conditions and potential impacts of the project. As noted above, the DEIS and POO indicate that shallow alluvial aquifers may exist on the project site, but the location and extent of any such aquifers has not been identified. The DEIS describes spring-fed perennial stream segments as near as 1.2 miles from the Plan area (p. 3-2), but does not indicate whether seepage of shallow subsurface flow from project facilities has the potential to reach these systems. Although the waste rock, tailings and heap leach facilities are all designed to be zero discharge facilities, any drainage these sites might generate would likely exceed State water quality reference values for a number of constituents, particularly arsenic, selenium and thallium. Shallow alluvial aquifers may provide a pathway for transport of contaminants off the project site and into adjacent perennial waters. BLM's May 2015 Memo commits to the insertion of additional detail into Sections 3.2 and 4.2 of the FEIS clarifying the existing hydrologic conditions at the proposed project site.

> *Recommendations:* In addition to the commitments made in BLM's 2015 Memo, include, in the Final EIS, a more thorough characterization of onsite hydrogeology, including the confirmed or anticipated locations of any shallow alluvial aquifers and a description of the efforts made to identify any such alluvial groundwater. While EPA understands that no shallow alluvial aquifers have yet been encountered nor does the project proponent necessarily anticipate encountering shallow groundwater, the Final EIS should discuss the actions that BLM will require in the event that any such aquifers are encountered. We recommend the placement of groundwater monitoring wells in any identified shallow or perched groundwater aquifers on the project site.

The DEIS concludes that the project poses no risk to surface water resources resulting from groundwater extraction, however, insufficient information is provided to support this conclusion. Additional information is needed describing the methodologies, assumptions, and results for the Theis Analysis calculation employed to determine the maximum drawdown effect in the vicinity of the water supply

wells. In addition, further baseline data are needed to demonstrate that Bull Spring and Bull Creek will not be affected by pumping from the basin-fill aquifer system. BLM's May 2015 Memo commits to include this information, as well as an additional requirement for water resources monitoring and mitigation for Bull Spring, Bull Creek, and associated surface water features, in the Final EIS.

Recommendations: EPA supports the commitments made in BLM's May 2015 Memo and specifically recommends that BLM include, in the Final EIS, greater detail regarding the hydrogeologic characteristics of the Basin-fill aquifer from which the proposed 2000 acre feet per year of supply water would be pumped, and a more detailed discussion of the Theis analysis performed. We also recommend that the Final EIS describe, in greater detail, the anticipated source of perennial flow in Bull Creek, and the project's potential to affect this flow. Clearly define all monitoring and mitigation measures, along with their anticipated effectiveness and enforcement mechanisms.

Air Quality

Page 4-34 of the DEIS indicates that the project would exceed the federal Prevention of Significant Degradation Class II increment standard for particulate matter of 2.5 micrometers in diameter or smaller (annual and 24-hour). Although PSD does not apply to the project area and no exceedance of the National Ambient Air Quality Standards is modeled, the exceedance of $PM_{2.5}$ increment values suggests that the project would result in substantial particulate emissions.

Recommendations: We recommend that additional particulate matter mitigation strategies be considered to reduce potential health impacts associated with high levels of PM emissions within the project area. In addition to physical measures to limit the production of roadway exposed-surface related emissions, we offer the following suggestions for limiting vehicle and heavy machinery-related emissions:

- To the extent practicable, purchase or rent vehicles and machinery equipped with the highest tier engines available;
- Ensure that all vehicles are tuned to the engine manufacturer's specification;
- Do not allow idling of vehicles for more than five minutes (unless, in the case of certain drilling engines, it is necessary for the operating scope);
- Include particulate traps, oxidation catalysts and other suitable control devices on all construction equipment used at the Project site;
- Use diesel fuel having a sulfur content of 15 parts per million or less, or other suitable alternative diesel fuel, unless such fuel cannot be reasonably procured in the market area; and
- Include control devices to reduce air emissions. The determination of which equipment is suitable for control devices should be made by an independent Licensed Mechanical Engineer. Equipment suitable for control devices may include drilling equipment, generators, compressors, graders, bulldozers, and dump trucks.

Climate Change

On December 18, 2014, the Council on Environmental Quality released revised draft guidance for public comment that describes how Federal departments and agencies should consider the effects of greenhouse gas emissions and climate change in their National Environmental Policy Act reviews. This guidance explains that agencies should consider both the potential effects of a proposed action on

climate change, as indicated by its estimated greenhouse gas emissions, and the implications of climate change for the environmental effects of a proposed action.

While the DEIS addresses the subject of climate change and does include both a calculation of the project's approximate CO_2 emissions and a discussion of climate change's potential impact upon the project, it does not discuss potential mitigation measures for reducing or minimizing greenhouse gas emissions.

> *Recommendations*: Consider potential mitigation measures for reducing greenhouse gas emissions. Identify, in the FEIS, all relevant, reasonable mitigation measures that could reduce greenhouse gas emissions, even if they are outside the jurisdiction of the BLM, and thus would not be committed to as part of BLM's Record of Decision[1]. We offer the following potential measures for the BLM's consideration:
>
> - Incorporate energy efficiency measures and appropriate alternative energy components into the project, such as on-site solar and/or geothermal power generation;
> - Use conveyors rather than haul trucks wherever feasible, e.g., for transporting ore to processing areas and the heap leach facility; and
> - Offer ride sharing or shuttle opportunities for mine employees commuting to the site from both nearby and distant communities.

Sage Grouse

Figures 3.9-6 and 4.9-1 indicate that most of the project lies within preliminary general habitat for the greater sage grouse. In addition, the primary access routes for the project and the proposed power line routes (all alternatives) bisect preliminary priority habitat (p. 3-75, 4-57). According to the DEIS, no site-specific noise modeling or monitoring has been conducted for the Gold Rock Mine project. BLM's May 2015 Memo indicates that site-specific baseline noise monitoring for sage grouse, which will determine ambient noise levels for leks near the project, is planned for 2016.

For the purposes of the analysis provided in the DEIS, information from other studies was used to estimate ambient noise levels (p. 4-65). Based on that analysis, the DEIS identifies noise and traffic-related impacts upon greater sage grouse as significant. It states that, if ambient noise thresholds are exceeded by the Project during the breeding season without mitigation, this could ultimately result in a decrease in the number of males and females attending the affected leks, and this effect may persist even after sources of noise have ceased (p. 4-67). The DEIS proposes monitoring and mitigation measures to offset noise related impacts to greater-sage grouse; however, the measures described are general and rely upon a more detailed monitoring and mitigation plan that has yet to be developed. In addition, the DEIS states that sage grouse mortality could occur due to direct vehicle collisions along the project access roads; however, no additional mitigation is discussed to offset this impact.

> *Recommendations:* Include the site-specific baseline noise monitoring analysis in the Final EIS, as well as the noise impact mitigation and monitoring plan that is identified as needed. Include, also, projected noise levels that would result from the proposed action, and discuss potential impacts with

1 As explained in the Council on Environmental Quality's Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, "This will serve to [46 FR 18032] alert agencies or officials who can implement these extra measures, and will encourage them to do so."

regard to sage grouse habitat utilization. If the noise threshold exceedences would be expected to result in a decreased number of sage grouse utilizing the nearby leks, discuss mitigation measures that would avoid or minimize this impact. In addition, identify measures that could mitigate for the direct take of sage grouse resulting from vehicle collisions.

Surface Water

Section 3.2 of the DEIS indicates that no jurisdictional waters of the United States would be impacted by the proposed project. In support of this conclusion, the DEIS states that "surveys identified partially scoured channel beds in several of the largest intermittent tributaries however, they determined that water flowed in these channels only for a few days following heavy precipitation and at no other time. Consequently, no jurisdictional waters of the U.S. were identified" (p. 3-2). This is an inappropriate basis for concluding that waters are not jurisdictional. A jurisdictional determination depends not on the frequency with which flow occurs in the channels, but on whether those channels have a "significant nexus" to jurisdictional waters.

Recommendations: Revise the discussion of Clean Water Act jurisdiction to address the question of whether or not the identified drainages have a "significant nexus" to jurisdictional waters.

Chapters 2, 3 and 4 of the DEIS use the terms "intermittent" and "ephemeral" interchangeably to describe surface water features within the project area and EIS study area. Based upon communication with BLM staff, EPA understands that the surface water features on-site would be more accurately characterized as ephemeral.

Recommendations: We recommend that the EIS consistently use the word "ephemeral" to describe the surface water features that flow only in immediate response to storm events. "Intermittent" should be used to describe surface waters that flow for a portion of the year (throughout the spring, for example), but cease to flow for a portion of the year.

Figure 3.2-1 is the primary map provided in the DEIS for identifying surface water features in the project vicinity. Unfortunately, this map is small and of low resolution. It is difficult, for example, to determine where project facilities would lie in relation to surface water drainages. In its May 2015 Memo, BLM commits to provide a clear, more detailed map to replace this figure.

Recommendation:
Include, in the FEIS, a clear and more detailed map to replace Figure 3.2-1.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

November 5, 2013

Dan Netcher
Bureau of Land Management
Ely Field Office
HC33 Box 33500
Ely, NV 89301

Subject: Gold Rock Mine Project Notice of Intent to Prepare an Environmental Impact Statement, White Pine County, Nevada

Dear Mr. Netcher:

The U.S. Environmental Protection Agency (EPA) has reviewed your Notice of Intent to prepare an Environmental Impact Statement (EIS) for the above referenced project. Our comments are provided pursuant to the National Environmental Policy Act (NEPA) and the Council on Environmental Quality's NEPA Implementation Regulations at 40 CFR 1500-1508.

The scope of subjects that should be included in the EIS is described in the enclosed detailed comments. Topics include geochemistry, water resources, air quality, vegetation and wildlife, mining waste, reclamation and post-closure management, cumulative impacts, mitigation and monitoring, among others.

We appreciate the opportunity to review this scoping notice. Please provide one hard copy of the Draft EIS to this office (mailcode CED-2) when it is electronically submitted to EPA's EIS submittal tool, *e-NEPA*. If you have questions, please contact me at (415) 972-3853 or geselbracht.jeanne@epa.gov.

Sincerely,

Jeanne Geselbracht
Environmental Review Office

Enclosure: EPA Detailed Scoping Comments

cc: Bruce Holmgren, NDEP

Gold Rock Mine Project
EPA Detailed Scoping Comments – November, 2013

General Comments

The EIS should demonstrate that all reasonable alternatives to proposed actions have been examined and that appropriate mitigation measures have been thoroughly considered and incorporated into the project. The EIS should provide substantial detail on the means of implementing mitigation measures, and should also identify how monitoring would be established to ensure compliance and assess effectiveness of mitigation.

In accordance with 40 CFR 1502.24, agencies are required to insure the professional integrity, including scientific integrity, of the discussions and analyses in the EIS. Any methodologies used should be identified, and the scientific and other sources relied upon for conclusions in the statement should be explicitly referenced.

Purpose and Need

EPA recommends the EIS include a clear description of the project's purpose and need. The EIS should adequately identify and describe the underlying need(s) for the project and the associated objectives or outcomes. Clear descriptions of project needs and objectives set the stage for thorough consideration of a range of alternatives and their effectiveness in meeting the needs and objectives of the project.

Alternatives

The EIS should rigorously explore and objectively evaluate all reasonable alternatives, including reasonable alternatives not within the jurisdiction of your agency. 40 CFR 1502.14. The EIS should provide a clear discussion of the reasons for the elimination of alternatives which were not evaluated in detail. The document should discuss potential environmental impacts of the alternatives in comparative form, thus sharply defining the issues among the options for decision makers and the public. 40 CFR 1502.14. Reasonable alternatives could include, but are not necessarily limited to, alternative sites or alternative designs for major mining facilities (e.g., waste rock piles, tailings, or heap leach facilities), smaller project, different pit geometries, and pit backfilling. Alternatives, including the No Action Alternative, may also depend on the validity of mining claims. The EIS should identify the lode and mill site claims that are included in the proposed project and discuss their validity. The EIS should discuss the alternatives in the context of the validity of claims and BLM's authorities under the Mining Law, the Federal Land Policy and Management Act, and other relevant statutes and regulations.

Mitigation

The EIS should thoroughly identify and describe appropriate mitigation measures associated with the project, specifying which ones would be committed to by the mine operator and/or required by the BLM or other federal, state, or local agency. The EIS should address how each measure would specifically mitigate the targeted impact, provide substantial detail on the means

of implementing each mitigation measure, identify who would be responsible for implementing it, indicate whether it is enforceable, and describe its anticipated effectiveness. For some impacts, there may be several appropriate and effective measures. Conversely, some measures may turn out to be less effective than anticipated; therefore, implementation and effectiveness monitoring should be conducted and contingency measures should be considered. We recommend the EIS describe the implementation and effectiveness monitoring that would be conducted and contingency measures that would be applied if initial mitigation measures fail.

Water Resources

1. The EIS should provide a complete hydrologic characterization of the project vicinity and the cumulative impact area, describing all existing water resources and baseline groundwater and surface water quality, quantity, flow regimes, and groundwater adjudication. Information on groundwater properties and groundwater/surface water connections (e.g., springs, seeps, interception of the water table by existing or proposed mine pits, etc.) are needed to identify and assess potential impacts to water resources and risks to receptors of contaminants.

2. The EIS should completely describe the pre-mining and current drainage patterns in the project area, as well as the projected drainage patterns (including post-closure drainage patterns) under each alternative.. Include hydrologic and topographic maps of the project area and cumulative impact area. This discussion should address potential effects of the project on erosion potential and sedimentation. Identify any components of the proposed project that would fall within 25- and 100-year flood plains. Discuss the potential for runoff to transport sediment or contaminants from disturbed areas at the mine to any surface waters.

3. The EIS should describe the applicable permits and state-adopted, EPA-approved water quality standards, including beneficial uses, in the project area, and discuss each alternative's compliance with the standards and permits.

4. The EIS should discuss the applicability of Nevada's General Permit for Stormwater Discharges Associated with Industrial Activity from Metal Mining Activities to this project. The EIS should include a storm water pollution prevention plan and discuss specific mitigation measures that may be necessary during operations, closure, and post-closure. The EIS should describe how the mine will achieve zero discharge for all phases of the project.

5. The EIS should describe all existing and potential future surface water discharges from the project, including storm water, and include a map depicting locations of all discharge outfalls. The EIS should also provide past and current monitoring results and trends for surface water and groundwater quality at the original Easy Junior Mine, as well as the recently completed monitoring wells, and discuss their relevance in predicting the potential for, and protecting against, contaminated drainage from the existing and future waste rock disposal areas and heap leach pad. Specifically, we recommend that the EIS include:

- A discussion of all monitoring that was conducted at the heap leach pad, waste rock disposal area, and process or other areas during and after the Easy Junior Mine

operations, and the results of that monitoring (e.g., any toe seepage collected after storms, stormwater samples, vadose zone samples, etc.). If such information is not available, an effort should be made during EIS preparation to inspect for seeps at the existing facilities, particularly after storms, and sample any stormwater and mine drainage so this information can be used to inform water quality predictions and develop appropriate mitigation measures specific to the proposed project;

- Information on the actual draindown water quality, meteoric water infiltration rates, and rates of draindown from the Easy Junior heap leach pad taken during and after heap closure. We recommend that this information be used to inform and ground truth the Heap Leach Draindown Estimator (HLDE) modeling conducted for the proposed new heap leach pad.

6. The EIS should discuss all direct, indirect, and cumulative impacts to surface water and groundwater quality and quantity from the proposed project and alternatives both during operations and after closure, including any ore processing that would take place off-site. Effective chemical and/or physical controls to prevent uncontrolled seepage through waste rock, stockpiles, tailings, and spent ore should be thoroughly analyzed in the EIS. The EIS should describe all potential project discharges, seepage, temporary ponding, diversions, and groundwater pumping, as well as the potential effects of these activities on water rights, beneficial uses, and wildlife.

- Discuss the potential for contamination of meteoric water that contacts existing and proposed waste rock, tailings, heap leach ore, stockpiles, roads, and other mine facilities.
- Describe the projected chemical characterization of water in open ponds that would be located at the site, including temporarily ponded meteoric water in the mine pit following closure.
- Discuss the potential for and effects of movement of any contaminated surface water to the subsurface.
- Describe the designs of the existing and proposed run-on/run-off channels, tailings dam, seepage collection systems, collection and sedimentation ponds, pump back systems, and any necessary treatment or disposal of these solutions. Depict these facilities on a map.
- The Gold Rock Conceptual Engineering Design for Heap Leach Pad and Tailings Storage Facilities (p. 20) indicates that sediment volumes for the proposed project are based on calculations for the Pan Mine project. Use of Pan Mine sedimentation rates for the Gold Rock Mine should be justified.
- Describe mitigation measures to prevent contamination of water and sediment.

7. The EIS should discuss how accidental releases of hazardous materials would be handled. Identify the potential impacts of failure of the solution containment systems, methods for discovering such failures, and the degree to which impacts would be reversible. Describe the mine's petroleum-contaminated soil management plan.

8. The EIS should identify potential water sources and the amount of water needed for the project, and describe the potential impacts associated with using these sources. The EIS should identify direct, indirect, and cumulative impacts to surface water flow, water supply wells, wetlands, springs and seeps, vegetation, wildlife, and other groundwater-dependent resources as a result of groundwater pumping associated with the proposed project. Describe post-closure groundwater elevation recovery.

9. BLM should coordinate with the U.S. Army Corps of Engineers to determine whether the proposed project requires a Clean Water Act Section 404 permit for discharge of dredged or fill material into waters of the United States, including wetlands and other "special aquatic sites." The EIS should describe all waters of the U.S. that could be affected by the project, including past impacts, and specify acreages and channel lengths, habitat types, values, and functions of these waters. The EIS should describe the potential environmental impacts and discuss alternatives to avoid or minimize those discharges.

10. The EIS should describe procedures for water quality and quantity monitoring and reporting. The EIS should also describe procedures for monitoring the functioning of the waste rock dumps, stock piles, tailings, and heap leach pad in controlling contact between this material and surface or meteoric water (e.g., maintenance of run on/runoff channels, liners, underdrains, seepage collection areas, growth medium covers; ponding on top of facilities; etc.). Describe all monitoring locations for surface water, ponded water, and collected seepage; groundwater monitoring wells; and points of compliance on the site. The EIS should discuss monitoring frequencies, screening intervals, and parameters to be monitored during all phases of the project, including post-closure.

We note that the monitoring well to the west of the mine is approximately one mile away from the proposed heap leach pad and south waste rock disposal area. While this well would potentially intercept alluvial water draining from facilities on the western side of the mine property, we recommend that installation of additional wells immediately downgradient of the heap and south waste rock disposal area be seriously considered so any changes or trends in water quality could be more quickly identified and controlled.

Geochemistry

Accurate characterization of the mine's geochemistry is critical in properly identifying the project's potential impacts and addressing them through facility design and mitigation measures. The EIS should discuss the mine's geochemistry, including the neutralization/acid generation potential (NP/AP) and non-acidic chemical leaching potential of the waste rock, pit wall rock, ore, and tailings. Describe the static and humidity cell tests (HCT) that have been conducted on ore and waste rock to characterize them, and provide a summary the test results. Figure 3 of the February 2013 *Draft Baseline Geochemistry and Waste Rock Handling Report* depicts the static and kinetic test sampling locations within the proposed pit area. The EIS should include this figure and describe and provide a thorough discussion of sample representativeness. We have the

following comments about the geochemical characterization presented in the *Draft Baseline Geochemistry and Waste Rock Handling Report.*

1. It is unclear from the *Draft Baseline Geochemistry and Waste Rock Handling Report* that sampling and testing conducted to date are sufficiently representative of the waste rock at the Gold Rock mine to accurately characterize the geochemistry and make reliable predictions about how mine rock will react over the long term. We recommend that, as a reference for the EIS, the *Draft Baseline Geochemistry and Waste Rock Handling Report* include additional information to support its conclusions, by further addressing the following issues.

- The proposed project would produce 170 million tons of waste rock of several different rock types, but acid-base accounting and whole rock analysis were conducted on only 124 waste rock samples. While the report references the 2009 Mine Environment Neutral Drainage (MEND) Prediction Manual recommendations regarding a phased approach to sample collection, it does not provide evidence to support a conclusion that, based on block modeling, the samples tested thus far represent an appropriate "starting point" for sufficient data gathering for the EIS and informed decision making. Also, please see comments 3 and 4 on the next page.

- The results of the whole rock analyses are not included in the *Draft Baseline Geochemistry and Waste Rock Handling Report* except for those conducted on the eight HCT samples. This information should be provided, including all analysis conducted on Easy Junior samples.

- It appears from Figure 3 that no pit samples from beneath the existing Easy Junior heap leach facility were included in the geochemical testing for the proposed project. This is a large data gap, and should be addressed in light of the fact that this unrepresented area accounts for approximately one-third of the proposed pit area.

- The majority of carbonized limestone samples had NP/AP less than 3:1, but the sole HCT conducted for this rock type was a sample with an NP/AP of 117. How will this information be used to determine thresholds for PAG/non-PAG handling designations?

- One-third of argillized Chainman Shale samples had NP/AP less than 1:1, but neither of the two HCTs conducted for this rock type had NP/AP less than 1:1. How will this information be used to determine thresholds for PAG/non-PAG handling designations?

- Waste rock from the Easy Junior waste rock disposal area does not appear to be included in samples that were tested. Please see next comment.

2. The EIS should describe the results of all static and kinetic testing originally conducted on core samples for the Easy Junior pit. We recommend that follow up testing be conducted on representative samples of the Easy Junior waste rock from the existing waste rock disposal area, if this has not already been done. These results should be compared against the original

predictions of the Easy Junior waste rock, as well as the results of the follow up monitoring which we recommend in comment #5 in the Water Resources section above. The EIS should discuss all of this Easy Junior information in the context of the overall geochemistry of the proposed Gold Rock project, and the proposed north waste rock disposal area in particular.

3. The Gold Rock Project Plan of Operations (POO) (p. 2-15) states: "Based on the geochemical characteristics of the waste rock from the Gold Rock Pit, Midway will use an adaptive management approach to further refine the understanding of the potential for waste rock to actually generate acid and metals leaching through ongoing testing of the waste rock. Based on existing HCT data, a portion of the PAG [potentially acid generating] material will require storage in designated PAG areas…; however, most of the material is expected to be NAG [non-PAG]. The actual percentage will be determined during additional block modeling, ongoing HCT testing, and operational sampling and analysis during mining." It does not appear that HCTs are ongoing; nor is it clear when additional block modeling would be conducted to facilitate designation of PAG and non-PAG rock. While adaptive management based on better understanding gained from these activities throughout mine life is encouraged, it is unclear whether representative sampling and testing have been conducted to characterize mine rock as accurately as possible to make reliable predictions about the proposed project's potential impacts. Adaptive management is not a substitute for taking a "hard look" at a project's potential impacts during the EIS process, before the project is permitted. The amount of PAG rock and metal-leaching rock that will need isolation or other special handling should be disclosed in the EIS so informed decisions about appropriate design and mitigation measures are made before the project is permitted.

4. The *Draft Baseline Geochemistry and Waste Rock Handling Report* (p. 29) states that PAG waste rock material will be identified during mining, and standard ore control protocols such as visual inspection, blast-hole sampling, and on- or off-site geochemical analysis would be conducted, and that waste rock will be categorized into three types for handling/disposal: (1) limestone and calcareous shale waste rock that will not require special handling, (2) low NP and low AP rock that may require special handling but is generally non-PAG, and (3) PAG rock with moderate sulfur content (generally between 1.5 and 3 percent) and low NP. The EIS should identify the protocols and specific parameters and thresholds that would be used to categorize these waste rock types, and specify how each category would be handled and disposed. Each designation threshold (e.g., 1.5 - 3 percent sulfur content and "low NP") should be well supported by the geochemical evidence. For example, HCTs were not conducted on samples with low sulfur content and very low neutralizing potential for rock types such as carbonized limestone, argillized Chainman Shale, and silicified limestone; however, categorization thresholds will be applied to these rock types. The EIS should explain how each categorization threshold will be determined for each rock type.

5. In several figures in the *Draft Baseline Geochemistry and Waste Rock Handling Report,* "low calcium samples" and "high calcium samples" are depicted, but these designations are not defined for purposes of characterizing the rock. Please provide descriptions for these terms.

6. It is unclear how much PAG waste rock may ultimately be disposed in the north and south waste rock disposal areas. The geochemistry report and EIS should estimate how much PAG waste rock may ultimately be disposed in these facilities, specify the NP/AP ratio the surrounding waste rock would need to meet for the purpose of isolating PAG cells, and clarify whether sufficient neutralizing material would be available when it would be needed for this purpose during mine life.

7. The EIS should also describe how waste rock facilities would be designed to ensure against leaching of contaminants, such as arsenic, selenium, and thallium, which, according to the POO (p. 2-14), may be released under *non-acidic* conditions based on results of the Meteoric Water Mobility Procedure.

8. In addition to characterization, the EIS should describe how waste rock would be handled, disposed, and reclaimed at the mine. The EIS should describe facility designs and control measures that would be implemented to ensure against degradation of surface water and groundwater quality, and any additional mitigation measures that may be necessary should prevention measures fail. The POO (p. 4-2) states that approximately 20 percent of the waste rock disposal areas' surfaces, prior to final grading and soil placement, will be comprised of PAG material. The EIS should explain how this would affect waste rock disposal, reclamation, closure, and post-closure activities.

Air Quality

1. The EIS should describe existing air quality in the project vicinity. The EIS should also discuss the National Ambient Air Quality Standards (NAAQS) and Prevention of Significant Deterioration (PSD) increments applicable to air quality in the project area. PSD increments exist for sulfur dioxide, nitrogen dioxide, and PM10 (particulates smaller than 10 microns in diameter). Specifically, for Class II areas, the annual PSD increment for nitrogen dioxide is 25 microns per cubic meter ($\mu g/m^3$); the annual and 24-hour increments for PM10 are 17 $\mu g/m^3$ and 30 $\mu g/m^3$; the annual PM2.5 increment is 4 $\mu g/m^3$; and the annual, 24-hour and 3-hour increments for sulfur dioxide are 20 $\mu g/m^3$, 91 $\mu g/m^3$, and 512 $\mu g/m^3$, respectively.

2. The EIS should estimate project emissions from all facilities and roads related to the mine's operations, including any off-site processing and support activities, such as vehicle traffic and delivery trucks for fuels, maintenance supplies, and other materials, as well as cumulative emissions from other sources in the project area. The EIS should include the air emissions resulting from the construction and operation of these facilities, including those resulting from road construction and use, as well as any proposed exploratory drilling operations. Modeling should be conducted to determine concentrations of criteria air pollutants for an accurate comparison with the NAAQS.

3. The EIS should discuss whether a PSD permit would be required for the proposed project. If a PSD permit is required, the mining company will need to determine increment consumption as well. If a PSD permit would not be required, the EIS should indicate whether the baseline date has been triggered for minor sources in the project area. The EIS should discuss impacts to the

NAAQS and PSD increments from projected emissions of the project and alternatives, considering the effects from all aspects of mine exploration, excavation, construction, operation, and support activities, such as vehicle traffic, as well as cumulative emissions from other sources in the project area. BLM should closely coordinate with NDEP regarding regulatory requirements and controls.

4. PSD increments are highly protective of air quality in Class I areas such as wilderness areas and national parks. The PSD increments for PM10 in Class I areas are 4 ug/m^3 and 8 ug/m^3 for the annual and 24-hour standards, respectively; and the nitrogen dioxide annual increment is 2.5 ug/m^3. The EIS should identify all Class I PSD areas located within 100 kilometers of the proposed project site. Class I areas even further away could potentially be affected as well. BLM should consult with the U.S. Forest Service and National Park Service for a determination of which areas could be adversely affected by the proposed action. Potential impacts to Class I PSD areas, including visibility impacts, should be discussed.

5. The EIS should discuss mitigation measures to minimize air pollutant emissions from the mine. The POO identifies some measures that may be used to control fugitive dust and exhaust emissions. Additional measures exist that could be used to control diesel particulate matter (DPM) and other criteria pollutants, from fugitive sources at the mine. We recommend the following additional emissions reduction measures.

- Use particle traps and other appropriate controls to reduce emissions of DPM and other air pollutants. Traps control approximately 80 percent of DPM, and specialized catalytic converters (oxidation catalysts) control approximately 20 percent of DPM, 40 percent of carbon monoxide emissions, and 50 percent of hydrocarbon emissions;
- Minimize construction-related trips of workers and equipment, including trucks and heavy equipment;
- Lease or buy newer, cleaner equipment (1996 or newer model);
- Employ periodic, unscheduled inspections to ensure that construction equipment is properly maintained at all times and does not unnecessarily idle, is tuned to manufacturer's specifications, and is not modified to increase horsepower except in accordance with established specifications.

6. The EIS should discuss whether and how air quality monitoring would be implemented to ensure project compliance with all applicable air quality standards and permits.

Hazardous Air Pollutants

1. The EIS should estimate releases of hazardous air pollutants (HAPs), including mercury, from the proposed project to air, soil, and water resources, including any off-site facility where ore may be processed.

2. The EIS should list major processing equipment, including any autoclave or roaster, stripping units, electrowinning units, retorts, refining furnaces, and carbon regeneration kilns. The EIS

should list in detail all possible sources of HAPs and the unit processes that generate this material.

3. The EIS should discuss how all HAPs would be controlled to reduce their emissions as much as possible, including from any off-site facilities that will process ore from this project. The EIS should describe the equipment included in the system to condense, capture, and/or treat HAPs, including mercury, and reduce their emissions. It should also discuss how these measures are effective in removing HAPs and making it unavailable for release into the environment and indicate how any condensed or captured mercury would be disposed.

4. The EIS should discuss the likely fate and transport of mercury air emissions from the proposed project and describe the cumulative amount of mercury that is annually emitted to the air from gold mines in northern Nevada.

5. The EIS should describe the HAPs monitoring that would be conducted, including locations and reporting requirements.

Climate Change

The EIS should identify the cumulative contributions to greenhouse gas emissions that will result from implementation of the proposed project, and discuss the potential impacts of climate change on the project. The EIS should also identify any specific mitigation measures needed to (1) protect the project from the effects of climate change (e.g., changes to storm magnitude or frequency), (2) reduce the project's adverse air quality effects, and/or (3) promote pollution prevention and environmental stewardship.

Any sustainable design and operation measures that can be identified as reducing greenhouse gases should be identified in the EIS with an estimate of the greenhouse gas emissions reductions that would result if measures were implemented, and the EIS should indicate whether these measures would be required. Attention should be paid to explaining the quality of each greenhouse gas mitigation measure – including its permanence, verifiability and enforceability. We offer the following potential measures for the BLM's consideration:

- Use conveyors rather than haul trucks where possible, e.g., for transporting ore to processing areas and the heap leach facility;
- Incorporate alternative energy components into the project such as on-site distributed generation systems, solar thermal hot water heating, etc.;
- Incorporate recovery and reuse, leak detection, pollution control devices, maintenance of equipment, product substitution and reduction in quantity used or generated;
- Include use of alternative transportation fuels, biodiesel, electric vehicles, ethanol, etc. during construction and operation if applicable;
- Commit to using high efficiency diesel particulate filters on new and existing diesel engines to provide nearly 99.9% reductions of black carbon emissions.

Vegetation and Wildlife

1. The BLM should work closely with the U.S. Fish and Wildlife Service (USFWS) and the Nevada Division of Wildlife to determine potential impacts of the project on plant and wildlife species, especially species classified rare, threatened, or endangered on either state or federal lists. The EIS should include the following information:

- Identify all petitioned and listed threatened and endangered species and critical habitat, as well as sensitive species, that might occur within the project area;
- Identify all species or critical habitat that could potentially be directly, indirectly, or cumulatively affected by each alternative;
- Discuss how surveys were conducted for each species, the findings of each survey, and all follow-up surveys and monitoring that would be conducted before, during, and/or after mining occurs;
- Include the biological assessment by reference or as an appendix, if one is prepared; and
- If a biological opinion is prepared by the USFWS, it should be summarized or included as an appendix in the Final EIS to demonstrate that the preferred alternative is consistent with the biological opinion.

2. The EIS should discuss the mitigation measures that would be taken to minimize impacts to special status species, and prevent exposure of migratory waterfowl and other wildlife to any toxic solutions or spills. The EIS should discuss the effectiveness of mitigation measures to protect wildlife, and indicate how they would be implemented and enforced. Describe maintenance requirements and monitoring to ensure their effectiveness.

3. The EIS should identify non-jurisdictional wetland and riparian habitat as well as other unique or important habitat areas that could be affected by each alternative, and describe their functions and values and the acreages likely to be affected. The EIS should discuss avoidance, minimization, and mitigation of losses or modification of habitat and plant and animal species composition, and address opportunities for improving the quality and quantity of these areas in designing facilities. Mitigation should be implemented in advance of the impacts to avoid habitat losses due to the lag time between the occurrence of the impact and successful mitigation. If important habitat would be adversely affected by the proposed project, we recommend that the EIS include a detailed mitigation plan for habitat replacement, identifying:

- Acreage and habitat type that would be created or restored;
- Resources needed to maintain the mitigation area;
- The revegetation plans including the numbers and age of each species to be planted;
- Maintenance and monitoring plans, including performance standards to determine mitigation success;
- The size and location of mitigation zones;
- The parties that would be ultimately responsible for the plan's success; and
- Contingency plans that would be implemented if the original plan fails.

Mine Reclamation, Closure, and Post-Closure

1. The EIS should describe and discuss the following components of mine reclamation:

- A detailed account of measures that would be taken to decommission mine operations and stabilize and revegetate slopes, waste rock facilities, heap leach pads, tailings, roads and other areas;
- Identification (including estimated acreage) of the areas targeted for reclamation, and description of the intended degree of treatment in each area;
- Estimation of any irrigation requirements;
- Timing of reclamation relative to mining operations and duration of reclamation treatment;
- Standards for determining and means of assuring successful reclamation; and
- Means of assuring that all maintenance required for reclaimed areas would continue after operations cease or while operations are suspended.

2. Reclamation and closure of the heap leach, tailings, and waste rock disposal areas will involve placing varying thicknesses of growth media over rock material to provide store and release covers for the purpose of reducing infiltration of meteoric water. These cover thicknesses vary by facility, but the justifications for these cover thicknesses are not provided in the POO. The EIS should describe the availability, properties, and sources of growth media, discuss how it would be applied to disturbed areas, and identify any additional measures (e.g., amendments) that may be needed to ensure successful reclamation and revegetation of the project site.

The EIS should identify the permeability standard that growth media covers for the heap leach, tailings, and waste rock facilities would be designed to achieve, and discuss their effectiveness in minimizing exposure of mined material to meteoric water that could mobilize contaminants. If permeability would differ by facility, explain why this should be the case.

- According to the POO (p. 3-7), the heap leach pad would be covered with 2.5 feet of growth media, although data to support this thickness had not yet been collected. In addition, the Heap Leach Draindown Estimator (HLDE) in Appendix K.3 provides heap leach draindown estimates, but the basis for the "covered infiltration rate" of four percent on page 3 is unclear. For example, what cover thickness is needed for a four percent infiltration rate? According to the POO (p. 4-3), the hydraulic properties of the ore and covered infiltration rate for input to the HLDE were adopted from the Pan project, six miles northwest of the Gold Rock project. Please provide the basis for using Pan site hydraulic properties in the Gold Rock HLDE. Why were infiltration rates from the covered and/or uncovered Easy Junior heap leach facility not used to estimate the covered and uncovered infiltration rates for the Gold Rock heap leach facility analysis? The EIS should provide the design basis for, and anticipated effectiveness of, the heap leach facility store-and-release cover thickness, and discuss whether the Easy Junior heap leach facility may provide an appropriate analog.

- According to page 3-6 of the POO, the waste rock disposal areas would be covered with six inches of growth media. Elsewhere, the POO (p. 2-15) indicates the growth media cover would be 12 inches to minimize the long-term potential for metals leaching. The EIS should discuss how cover thickness needed to minimize infiltration of meteoric water through the waste rock was calculated, and describe its anticipated effectiveness.

- According to the Gold Rock POO (p. 3-6), closure of the tailings storage facility includes:

  "...installation of an "access" platform constructed out of waste rock to provide the ability to rapidly complete remaining cover construction, which will consist of installation of a soil store-and-release cover over the TSF to limit infiltration. The access platform construction will result in rock penetration to estimated 1 to 2 feet into the tailings forming a "mixed" layer consisting of impermeable rock with tailings filled interstices. Given that the tailings interstices form about 30 percent of the volume of the rock mass, the effective area for seepage through the mixed layer is reduced (compared to a tailings-only layer), thus reducing the permeability of the total area by an amount proportional to the total rock surface area. The above action is expected to result in a 1 x 10^{-7} cm/s hydraulic conductivity layer, or one order of magnitude lower than the expected tailings permeability of 1 x 10^{-6} cm/s. Waste rock and stockpiled growth media will be placed for total minimum thickness of 3 feet on the TSF beach surfaces to conform to beach angles at the time of placement."

  EPA does not agree that mixing waste rock with tailings would result in a layer with a hydraulic conductivity that is an order of magnitude lower than that of the tailings. In addition, we are concerned about the successful revegetation of the reclaimed tailings, which could be affected by the tailings chemistry. A capillary break (e.g., a layer of gravel) below the growth media may be needed to preclude wicking of salts and metals from the tailings into the vegetated cover above. We recommend the EIS specify the threshold concentrations for total dissolved solids and other contaminants of concern that could adversely affect tailings revegetation efforts, and discuss whether these thresholds could potentially be exceeded. The EIS should assess the need for a cover that includes a capillary break layer and growth media layer, and estimate the necessary thicknesses of these layers to accomplish both successful revegetation and minimization of infiltration of meteoric water into the tailings.

3. We recommend that revegetation be accomplished with only native species indigenous to the area in order to restore the ecosystem to as natural a state as possible after mine closure. We also recommend that revegetation success be monitored and enforced for at least five years following revegetation efforts.

4. The EIS should describe all closure and post-closure activities associated with the heap leach pad, waste rock piles, tailings, and other facilities. The discussion should describe commitments by the mine company and agencies regarding implementation, performance, and effectiveness

monitoring, as well as operation and maintenance of caps/covers, draindown systems, evapotranspiration (ET) cells for long-term heap leach draindown, fencing and wildlife protection measures, diversion channels, wells, etc. Describe the mitigation actions that would be taken should destabilization or contamination be detected.

- The EIS should describe the design and operation of the ET cell and potential tailings seepage pond, and describe in detail how draindown fluids from the proposed leach pad and tailings would be captured, treated and/or controlled over the closure and post-closure period. The EIS should discuss the fate and transport of cyanide and the other constituents in the heap and tailings over the course of closure and post-closure, identify the projected draindown rates for these facilities, and address any ecological risks posed by the ET cell, tailings, and tailings seepage ponds (e.g., increasing contaminant concentrations, biological uptake).

- The EIS should provide details about the existing Easy Junior heap leach facility, including a description of the spent ore, draindown water quality, draindown rates, transport and fate of draindown through the alluvium in the draindown field, effectiveness of the 12-inch growth media cover over the past nine years, and vadose zone and groundwater monitoring results, and discuss how this information can be used to inform the analysis and design of the proposed Gold Rock heap leach facility.

- We note that the tailings drain water will be pumped back to the plant to be reused in processing during operations, but it is unclear how this water will be managed during and after closure. According to the POO (p. 2-18), a seepage collection pond is not currently included in the design, as the drainage will be collected within the tailings storage facility; however, if the design changes based on additional site-specific information, a double-lined pond will be constructed at the ultimate downstream toe of the facility. The EIS should discuss what conditions could change that could result in a different design. We also recommend that the EIS assess a gravity drain and passive treatment option for closure/post-closure management of the tailings drainage, which could obviate the need for pumping and reduce long-term post-closure costs.

5. EPA recommends that the EIS discuss the reclamation bonding requirements and amounts for the proposed project and alternatives. The viability of the bond can be a critical factor in whether a project is environmentally acceptable; therefore, this information should be disclosed in the Draft EIS. The EIS should also discuss how BLM could modify the bond during the course of operations if temporary, long-term, or perpetual treatment and/or remediation needs are discovered during operations. The EIS should describe bonding requirements and other measures that BLM and State regulators have in place to ensure funds would be immediately available should the mine operator or its insurer be unable to fund the required reclamation or closure activities.

6. In addition to describing long-term monitoring and management of the mine, the EIS should describe the enforcement mechanisms by either BLM or other regulators should the mine operator fail to properly follow the long-term post-closure plan.

7. The Draft EIS should indicate the projected costs for all post-closure activities, and discuss any requirements BLM would impose on the mine operator to establish a trust fund or other funding mechanism to ensure post-closure care, in accordance with 43 CFR 3809.552(c). The Draft EIS should include a general description of the long-term funding mechanism that BLM would require for post-closure activities. The financial assurance must be kept current as conditions change at the mine. The terms of the fund are critical to determining whether sufficient funds would be available to implement the post-closure plan and reduce the possibility of long-term contamination problems. The discussion in the Draft EIS should include the following information:

- Requirements for timing of payments into the trust fund;
- How to ensure the trust fund would be bankruptcy remote;
- Acceptable financial instruments (such as those specified in 43 CFR 3809.555);
- Tax status of the trust fund;
- Identity of the trust fund beneficiaries; and
- Identity of the operator with responsibility/liability for financial assurance at this site.

If the potential impacts of the project would necessitate a long-term trust fund, EPA believes this information is essential in the Draft EIS because it could make the difference between a project sufficiently managed over the long-term by the site operator, or an unfunded/under-funded contaminated site that becomes a liability for the Federal government. In the absence of an appropriate guarantee, EPA could consider a project unacceptable if it could result in unmitigated impacts exceeding environmental standards on a long-term basis.

Environmental Justice

Executive Order 12898 on Environmental Justice addresses disproportionate adverse impacts of federal actions on minority and low-income populations. The EIS should identify minority and low-income populations, and address whether the alternatives would cause any disproportionate adverse impact, such as displacement, changes in existing resources or access, or community disruption. The document should also explore potential mitigation measures for any adverse environmental justice effects. The EIS should describe the measures taken by the BLM to: (1) fully analyze the environmental effects of the proposed Federal action on minority communities and low-income populations; and (2) present opportunities for affected communities to provide input into the NEPA process. The EIS should state whether the analysis meets requirements of BLM's environmental justice strategy.

Government-to-Government Consultation

We recommend that the EIS discuss BLM's consultation with all Native American tribal governments that could be potentially affected by the proposed project or may have resources (e.g., traditional cultural properties, groundwater resources) that could be affected. The principals for interactions with tribal governments are outlined in an April 29, 1994, presidential

memorandum and Executive Order 13175, dated November 6, 2000. It is important that formal government-to-government consultation take place early in the scoping phase of the project to ensure that all issues are adequately addressed in the Draft EIS.

Land Use

If the project area is currently grazed, the EIS should describe the potential impacts to livestock grazing in the project vicinity and discuss whether reduction in forage would necessitate a reduction in livestock grazing in the area for the duration of the project and/or after mine closure and reclamation. Identify any other special uses that would be displaced by the proposed project and discuss the proposed project's specific potential impacts to these uses.

Pollution Prevention

Pursuant to the Pollution Prevention Act of 1990,

> "pollution should be prevented or reduced at the source whenever feasible; pollution that cannot be prevented should be recycled in an environmentally safe manner, whenever feasible; pollution that cannot be prevented or recycled should be treated in an environmentally safe manner whenever feasible; and disposal or other release into the environment should be employed only as a last resort and should be conducted in an environmentally safe manner."

There are significant opportunities for industry to reduce or prevent pollution and energy use at the mine through cost-effective changes in production, operation, and raw materials use, as well as implementation of renewable energy technologies. Such changes offer mining companies substantial savings in reduced raw material, pollution control, and liability costs, as well as help protect the environment and reduce risks to worker health and safety. In addition to the recommendations in the Climate Change section, above, we recommend that BLM and the mining company actively pursue other pollution prevention techniques to prevent or reduce pollution at the proposed mine.

Cumulative Impacts

According to the Council on Environmental Quality (CEQ) regulations implementing NEPA, a cumulative impact is "...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." [40 CFR 1508.7].

Cumulative impacts analyses are important to the EIS as they describe the threats to resources as a whole. Understanding cumulative impacts can illuminate opportunities for minimizing those threats. The EIS should describe the potential cumulative impacts associated with the proposed

project and alternatives, as well as the methodology used to assess them. Guidance on how to analyze cumulative impacts has been published by the CEQ [1] and EPA.[2] In addition, you may also wish to refer to http://www.dot.ca.gov/ser/cumulative_guidance/purpose.htm. This cumulative impact guidance was prepared by the California Department of Transportation, the Federal Highway Administration, and EPA Region 9 for transportation projects in California. However, the principles and the 8-step process in this guidance can be applied to other types of projects, and outside of California. We recommend the principles and steps in this guidance to other agencies as a systematic way to analyze cumulative impacts for their projects.

We have the following recommendations for structuring cumulative impacts analyses:

- The description of the affected environment should focus on each affected resource or ecosystem. Determination of the affected environment should not be based on a predetermined geographic area, but rather on perception of meaningful impacts and natural boundaries.
- Focus on resources of concern, i.e., those resources that are "at risk" and/or are significantly affected by the proposed project, before mitigation. Identify which resources are analyzed, which ones are not, and why;
- Identify all other on-going, planned, and reasonably foreseeable projects in the study area, not just mining projects, which may contribute to cumulative impacts. Where studies exist on the environmental impacts of these other projects, use these studies as a source for quantifying cumulative impacts;
- Include appropriate baselines for the resources of concern with an explanation as to why those baselines were selected; and
- When cumulative impacts occur, mitigation should be proposed. Clearly state who will be responsible for mitigation measures and how mitigation implementation will be ensured.

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[1]Considering Cumulative Effects Under the National Environmental Policy Act, Council on Environmental Quality, January 1997. http://ceq.eh.doe.gov/nepa/ccenepa/ccenepa.htm

[2]Consideration of Cumulative Impacts in EPA Review of NEPA Documents, U.S.EPA, May 1999. http://www.epa.gov/compliance/resources/policies/nepa/index.html

United States Department of the Interior

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In Reply Refer To:
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CERTIFIED MAIL -7012 1640 0002 0404 5459 - RETURN RECEIPT REQUESTED

Carter W. Jessop
U.S. EPA, Region 9
Environmental Review Section (ENF-4-2)
75 Hawthorne Street
San Francisco, CA 94105

Dear Mr. Jessup:

Thank you for participating in the telephone conference calls on April 22 and May 4, 2015 relative to Midway Gold US Inc.'s Gold Rock Mine Draft Environmental Impact Statement (DEIS), Bureau of Land Management (BLM) case file NVN-091957. As noted during those calls, BLM developed a technical memorandum summarizing the EPA's questions and is providing responses to those questions in the enclosure.

The DEIS was based on extensive data available in several technical reports. These reports were summarized and incorporated by reference in the DEIS. BLM's intent was to provide succinct statements regarding geochemistry and water because such details can make the document unmanageable for public review. Incorporation by reference is common practice and encouraged in order to keep the document size manageable. However, in response to your suggestion, we will insert information from the technical reports previously incorporated by reference. The information carried over from the technical reports will provide more details and explanation and will be within the scope of the analysis already provided. There are no new impacts of significance not previously identified in the published version of the DEIS, and this information was available to the public with the published DEIS.

Major issues identified for this project during scoping were wildlife (sage grouse and mule deer) and access routes to the mine. Therefore, we provided more details and analysis on these subjects even as we tried to keep the size of the document manageable enough to facilitate meaningful public review by incorporating by reference other technical information.

Geochemistry and water were also raised as issues during public scoping and, accordingly, were addressed in the DEIS. The DEIS summarized methodologies of research and modeling, and the results of that research to analyze impacts and alternatives. In addition, we have site-specific historical data: the Gold Rock Mine Project would expand the closed Easy Junior Mine. No

acid rock drainage or other issues have been identified at the Easy Junior Mine. If the BLM approves the Gold Rock plan of operations, the proponent would be required to obtain a water pollution control permit from the Nevada Division of Environmental Protection Bureau of Mining Regulation and Reclamation, along with other water-related permits. In addition, the proponent has placed in the plan of operations applicant committed measures that would reduce and/or negate any impacts to geochemistry and water. Therefore, the DEIS analysis was based on these measures being in place and impacts were reduced or were negligible.

Based on our review of your comments, CEQ guidance and BLM guidance we intend to proceed with the Final Environmental Impact Statement once we have received your comment letter. We do consider your comments to be substantive and will respond to them accordingly (with changes in the text, short responses to each comment, and a citation to the section where the change was made). Based on our discussions, your comments do not appear to require any substantive changes to the proposed action or development of new alternatives that are outside the spectrum of alternatives already analyzed. Nor do they identify any significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its effects. We will invite you to participate in reviewing the Administrative Final Environmental Impact Statement and the appendix containing all public comments and BLM's responses. Your scoping comments and any other comments you submit on the DEIS will be included.

If you have any questions, please contact Dan Netcher at 775 289-1872, dnetcher@blm.gov or at the above address.

Sincerely,

Jill A. Moore
Field Manager
Egan Field Office

Enclosures:
1. Technical Memorandum

SUMMARY OF ISSUES DISCUSSED
April 22 and May 4, 2015

REGARDING

The Draft Environmental Impact Statement for the Gold Rock Mine Project

On April 22, 2015, representatives of the Bureau of Land Management Egan Field Office (BLM), ARCADIS, Midway Gold U.S. (Midway) and its baseline hydrogeology and geochemistry consultant Hatch held a conference call with the Environmental Protection Agency (EPA) to discuss the Draft Environmental Impact Statement for the Gold Rock Mine Project. This document provides the BLM's summary of the discussion as requested by EPA lead reviewer Carter Jessop. The comments are listed below in **BOLD** by category, followed by the BLM's response to each comment in italics.

A. Geochemistry and Water Resources:

A-1. I have concerns with the geochemistry as presented in the EIS and the geochemistry report (2013). Static results show 60 percent PAG. Kinetic testing was run on 8 samples for 36 weeks, and the summary of the results was that most of the waste rock is expected to be non-acid generating. This expected result informed the PAG strategy. If being informed by lower percentages, 60 percent isn't useful in determining how material is actually going to be handled. The volume of acid-generating rock is not identified, and the EIS text leaves the handling of material vague, pointing to field testing protocols as a main methodology on how handling will be determined/established. Specific handling information is absent from the EIS. We are used to seeing this handling information in other EISs. We need to be sure that PAG is addressed, and that we don't end up with seeps, which would present a danger to wildlife. Is there more known or understood than what is presented in the EIS?

Regarding the adaptive approach to which Brent referred, text in the EIS states that management of waste rock, PAG –'might' be used. No adaptive management plan (AMP) is appended, or seems to have been developed. It sounds like Midway and the BLM intend to implement an AMP. With the amount of geochemistry material provided and the level of uncertainty at least as described in the EIS, the EPA is not convinced that an AMP is the appropriate approach. Sounds like more information is needed to clarify PAG and neutralizing material available. As presented in the EIS, this information is not clear, and Midway is not ready for an AMP. Point the reader to the PoO for specifics. Typical PAG management strategy is encapsulation of PAG in distinct PAG cells. I talked with Tom Olsen, and Tom seemed confused as well that this information wasn't in the EIS, and noted that the information "must be available."

The Draft Baseline Geochemistry and Waste Rock Handling Report, Gold Rock Project, Nevada (Interralogic 2013a) was prepared in 2012-2013 during the early stages of mine planning for Gold Rock. The Gold Rock Mine Project site has a similar geologic and climatic regime to the nearby Pan Mine, and Midway found similar geochemical testing results at both Pan and Gold Rock. The geochemical information available for the Gold Rock Mine Project at the time allowed for reasonable estimation of the deposit's characteristics. Based on the geochemical testing, Midway recognized that the waste rock may include some PAG, and in Section 4 Waste Rock Management Strategy, pages 29 and 30 of the report Midway proposed storage of PAG in a designated "cell"

within the existing footprint of the waste rock disposal areas (WRDAs) and encapsulation and/or cover over the PAG sites. Midway committed to develop a suitable cover design using available site materials to minimize infiltration and limit ingress of oxygen such that waste rock would be isolated from the surrounding environment, noting that the significant depth to groundwater provides additional protection of potential water resources. Knowing that additional information would be gathered over time, in Section 1 Introduction, page 6 and again in Section 5 Summary, page 31 of the report, Midway committed to an adaptive management approach to operational management of materials and to design closure strategies. Midway included the baseline geochemistry and waste rock handling report in the Plan of Operations (PoO) as appendix C.

Section 2.4.3 of the PoO refined the waste rock handling approach, stating that both WRDAs would be covered with a 12-inch vegetated soil cover to minimize the long-term potential for metals leaching. The PoO noted that HCT data indicate that most of the waste rock is not anticipated to be PAG. However, prior to development of the waste rock disposal areas, the results from the HCTs would be reviewed, and if necessary additional waste rock would be tested further to verify its character. If this material is determined to be PAG, and if the material is in manageable pods in the pit, then the material will be isolated in either of the WRDAs. The PoO also states that the final lift over the isolated PAG material in either of the WRDAs would consist of approximately 10 feet of high-carbonate material using waste rock set aside during mining, with an overlying vegetated plant growth media cover (12 inches thick) to minimize the long-term potential for acid generation and metals leaching.

Similar text is presented in PoO Section 4.2.3. PoO appendix K includes figures K.2 and K.3, which show the sections of the WRDAs proposed for PAG waste rock storage.

EIS Section 2.1 (page 2-1) notes that the summary of the Proposed Action presented in EIS Section 2.3 is based on the PoO and its appendices, including the baseline geochemistry and waste rock handling report. EIS Section 2.3.5 Waste Rock Disposal Areas (page 2-18) notes the estimated volume of waste rock for each of the waste rock disposal areas (WRDAs), notes that geochemical testing was performed, and cites the Draft Baseline Geochemistry and Waste Rock Handling Report, Gold Rock Project, Nevada (Interralogic 2013a), noting that the report is appended to the Plan of Operations (PoO) and is summarized in EIS Section 3.2.

EIS Section 2.3.5 (page 2-23) describes the proposed storage of PAG in designated areas where the final lift would consist of approximately 10 feet of high-carbonate material and an overlying 12-inch thick growth media cover, and figure 2.3-1 shows proposed locations of PAG waste rock storage areas. Text in this section states Midway's commitment to use an adaptive management approach to further refine the understanding of the potential for waste rock to actually generate acid and metals leaching through ongoing testing of the waste rock. EIS Table 2.3-8 lists Midway's Applicant-Committed environmental protection measures, which include development of mitigative actions as necessary if surface seeps are identified on the WRDAs.

The BLM will add text to EIS Sections 2.3.5, 3.2 and/or 4.2.3 noting that the Gold Rock Mine Project site has a similar geologic regime to the nearby Pan Mine; and, as one would expect, Midway found similar geochemical testing results at both Pan and Gold Rock.

EIS Section 3.2 Water Resources, Water Quality (page 3-15) describes geochemical testing activities and a summary of the results. The BLM will expand the description of

geochemical testing in EIS section 3.2 Water Resources (page 3-15 and 3-16), and/or 4.2.3 Water Resources, Proposed Action (page 4-7 and 4-8).

EIS section 4.2.3 Water Resources, Proposed Action, Operation and Maintenance, Groundwater (page 4-8) describes geochemical testing results, notes the neutralizing potential of material at the site, indicates that although significant testing has been done, additional testing would be on-going during operations, and states that during operations the waste rock sampling program would be reviewed by NDEP and the BLM to determine if an adaptive management plan is necessary. The BLM will clarify the geochemical information presented in EIS Section 4.2.3 Water Resources, Proposed Action (page 4-7 and 4-8), noting that Midway would conduct additional on-site testing during mining to determine whether there is a need to place the material in a PAG management area, or whether the material could be comingled with other non-PAG material for which no special handling is necessary. Using the estimated tonnage of waste rock presented in PoO Table 2-4 and EIS Section 2.3.5 (169,600,000 tons), the BLM will add text to EIS Section 4.2.3 noting that up to 101,760,000 tons of waste rock may be PAG and that even under this worst-case scenario, the remaining 40 percent of the waste rock would be non-PAG material and contain sufficient neutralizing material to encapsulate PAG material.

Regarding the water pollution control permit (WPCP), numerous EIS sections noted Midway's requirement and commitment to obtain a WPCP from NDEP: Sections 2.3.6 Heap Leach Facilities (page 2-23), 2.3.7 Processing Ponds and Carbon-In-Columns Processing Plant (page 2-30), 2.39 Tailings Storage Facility (page 2-39) Stormwater Management (page 2-40), 2.3.14 Emergency Planning and Response (page 2-51), 2.3.16 Reclamation Plan, Heap Leach Pad (page 2-61) 2.3.16 Reclamation Plan, Tailings Storage Facility (page 2-62), 4.2.3 Water Resources, Proposed Action, Construction, Surface Water (page 4-3), 4.2.3 Water Resources, Proposed Action, Operation, Maintenance, and Reclamation, Groundwater (page 4-7). The WPCP would include detailed plans for monitoring of the waste rock for acid generation potential and the leaching of heavy metals and other contaminants of concern.

Implementation of the waste rock handling plan, in conjunction with the Applicant-committed measure to address any seeps and to obtain and comply with the NDEP WPCP, would minimize if not eliminate potential issues associated with PAG.

A-2. In the PoO and EIS, I didn't find justification for thickness of the soil cover. Were on-site humidity cell test performed? What is the basis for indicating that the proposed cover thickness has acid-buffering capacity? The Easy Junior Mine is generating acidic seepage.

Regarding the cover on the heap, the EIS indicates 2 to 3 feet, but doesn't indicate what rate of infiltration that would allow. The EIS text isn't clear on what infiltration would be allowed by 6 inches of cover. Text on page 2-61 states one thickness of growth media, pages 2-60 and 2-62 state different thickness. No citation for modeled effectiveness of these thicknesses. Soil is typically growth medium. If that is not the case, the EIS is unclear. The EIS notes that the waste rock facilities would get 6 inches, the heap leach pad would get 2 ½ feet – maybe refer to vadose zone modeling to limit infiltration, and the TSF would get 6 inches. Not clear what percentage of infiltration is anticipated. Is the TSF also going to be capped with non-acid generating waste rock? The EIS text is uncertain and misleading. Maybe it's just a matter of clarification in the text.

From 2001 through 2004 the USACE and BLM reclaimed and closed portions of the Easy Junior Mine as part of the U.S. Army Corps of Engineers (USACE) Restoration of Abandoned Mine Sites (RAMS) program. The RAMS closure activities are summarized in the Final Investigation Report, Easy Junior Mine Site, White Pine County, Nevada (RAMS Report) (CDM Federal Programs and CDM Constructors Inc. 2003). As part of these activities, leach pad soil cover modeling was performed. HELP modeling indicated that a 12 inch layer of material from the adjacent onsite soil stockpile would provide a 98 percent cover system efficiency in limiting percolation from the cover soil cap into the regraded leach pad material (CDM Federal Programs and CDM Constructors Inc. 2003). EIS Section 1.2 (page 1-7) indicates that as part of the U.S. Army Corps of Engineers (USACE) Restoration of Abandoned Mine Sites program, the USACE and BLM reclaimed and closed portions of the Easy Junior Mine, and includes the RAMS Report "(CDM Federal Programs and CDM Constructors Inc. 2003)" as a reference. The BLM will clarify text in EIS Section 1.2 Project History, stating that the RAMS closure activities are summarized in the Final Investigation Report, Easy Junior Mine Site, White Pine County, Nevada (RAMS Report) (CDM Federal Programs and CDM Constructors Inc. 2003) The BLM will add this information on soil cover modeling to EIS sections 1.2 Project History and 4.2.3 Water Resources, Proposed Action.

The RAMS Report Section 2.6.2 Analytical Results from Hot Spots (Pages 2-10 and 2-11) notes that Alta Gold reclaimed approximately 50 percent of the waste dump, and that during a field investigation in 2003, these treated areas displayed good revegetation success, whereas adjacent areas where cover soil had not been applied had minimal volunteer revegetation, probably due to the small amount of fines contained in the waste rock (CMD Federal Programs and CDM Constructors Inc. 2003).

The RAMS Report also describes a field investigation of localized areas on the surface of the reclaimed waste rock dump where red iron oxide staining and unsuccessful revegetation was observed. These areas are referred to as "hot spots." At these "hot spots," sulfidic waste exposed to oxygen can produce acid that darkens the soil surface, and can produce gases that are toxic to vegetation in the immediate vicinity of the "hot spot." During the field investigation, a visual evaluation of the waste rock dump found no evidence of acid rock drainage at the toe of the waste rock dump. Nine soil samples were collected from the waste rock dump slopes and analyzed for pH. Several of the samples were collected to obtain background pH levels. One background sample (EJ WD Typical) was collected from a point on the dump that had been cover soiled and revegetated and had a soil pH of 7.64. Another sample (EJ WD Barren) was taken from a point on the dump that had not been cover soiled and did not have vegetation on it. The soil pH for this sample was 7.39. Another sample (HS 7) also did not display acidic soil conditions. This point was sampled because the area was damp and warm to the touch and there was a strong sulfur smell. However, moss was growing on this site and the soil pH was 7.31.

On average, soil sampling of stained areas yielded low soil pH from 2.0 to 2.5, indicating acidic conditions. In areas of the waste rock dump where no staining was observed, the soil pH from two samples was 7.4 and 7.6, indicating a neutral soil condition. With no evidence of acid rock drainage generation from the waste rock dump, the primary environmental concern was acidic off-gases from the "hot spots" that prevent plant growth. The recommended treatment was to place 8 inches of cover soil on the remaining portions of the waste rock dump that had not yet been reclaimed, and an additional 4 inches of cover soil in "hot spot" areas, for a total of 12 inches of cover in those areas (CDM Federal Programs and CDM Constructors Inc. 2003). The Final Completion Report, Golden Butte and Easy Junior Mine Sites Section 3.5 indicates that

the USACE and BLM reclaimed approximately 21 acres of the waste dump by placing 1 foot of borrow material and seeding with an approved seed mix (MWH 2005).

EIS Section 1.2 Project History (page 1-2) notes that Alta Gold regraded the waste rock dump, and the BLM will expand this text to clarify 1994 reclamation activities and the success of that reclamation. . The BLM will also add text to expand on the closure activities as described above.

When designing the covers for facilities at the Gold Rock Mine Project, Midway took into consideration available information for the nearby Pan Mine, which has a similar geologic and climatic setting. At the Pan Mine, soil cover modeling results indicated that a 2.5- foot thick soil cover would result in 0 percent infiltration (Dwyer 2012). The modeling report was included as appendix F of the Pan Plan of Operations. The soil cover modeling information was used to develop the Midway Gold US Inc. Waste Rock Management Plan, Pan Project, Nevada (Interralogic 2013), which was included in the Pan Mine Plan of Operations as appendix E. In the Pan Mine Plan of Operations Section 2.5.3 Waste Rock Disposal Areas, Midway committed to place a 2.5-foot thick layer of high-carbonate material plus an additional 7.5 feet of non-PAG run-of-mine waste, for a total cap thickness of 10 feet under the growth media layer in the designated PAG area. At Gold Rock, more neutralizing material is available, and Midway has committed to placing 10 feet of high-carbonate material under the growth media layer in designated PAG areas.

Midway also conducted soil cover modeling for the Gold Rock Mine Project. The Gold Rock Cover Infiltration Evaluation (Interralogic 2013b) is included in the PoO as appendix D. PoO Section 2.4.3 Waste Rock Disposal Areas (page 2-15 of PoO) and PoO Section 3.10.2 Regrading for Stability, to Promote Runoff, Reduce Infiltration, Control Erosion (page 3-7 of PoO) refer to the soil cover modeling attached to the PoO as appendix D.

EIS Section 2.1 Introduction (page 2-1) notes that the description of the Proposed Action in Section 2.3 is based on the PoO and its appendices. The BLM will add the title of the cover soil modeling report to the list of appendices.

EIS Section 2.3.16 Reclamation Plan Heap Leach Pad (page 2-61) describes vadose zone modeling, notes that a cover thickness of between 2.5 and 3.0 feet would limit infiltration through the cover to 1 percent of annual precipitation, and cites the Gold Rock Cover Infiltration Evaluation (Interralogic 2013b).

The BLM will add text to EIS Section 2.3.16 Reclamation Plan and EIS Section 3.5 Soils, Reclamation Suitability, clarifying that the Gold Rock Cover Infiltration Evaluation (Interralogic 2013b) is included in the PoO as appendix D.. The soil cover thickness to be placed over the heap is critical, given that the heap would contain PAG material and would not contain high-carbonate material that could neutralize PAG. Therefore, the cover soil modeling was performed to determine the appropriate thickness of the cover on this facility. At the WRDAs development of the facilities would include specific placement of a cap of high-carbonate material, with a minimum thickness of 10 feet, over PAG material. Therefore, a protective soil cover comparable to the heap leach facility soil cover is not necessary. Nonetheless, Midway would place a 1-foot thick layer of growth media over the 10-foot thick high-carbonate waste rock layer to promote vegetation growth and minimize infiltration. At the TSF the cover design is intended to form a layer of lower permeability, not to protect underlying PAG, but to reduce the amount of water becoming entrained in the TSF and therefore reduce the build-up of head on the tailings embankment. Again, Midway would place a 1-foot thick layer of

growth media over the 10-foot thick high-carbonate waste rock layer to promote vegetation growth and minimize infiltration. The BLM will expand the description of the cover soil modeling, noting that this modeling was used as a guide in developing the cover thickness for the WRDAs (page 2-60) and the TSF (page 2-63). For further information on the cover for the TSF, please see ***Comment and Response B-1****, below.*

EIS Section 2.3.16 Reclamation Plan, Plant Growth Media Management notes that plant growth media that are practicably salvageable would be removed prior to facility construction. Various subsections in EIS Section 2.3 Proposed Action note that growth media would consist of the top 1 to 2 feet of material salvaged from the surface. The BLM will add text clarifying that soil cover would consist of native fill, alluvium and/or colluvium, and that growth media would be placed on top of this soil cover layer to promote revegetation. Depths of cover material (colluvium) and growth media to be placed on each facility will be clarified in text or a table.

Facility	Minimum Depth (Feet)			
	High-Carbonate Waste Rock	Cover (Alluvium, Colluvium)	Growth Media	Total, High-Carbonate Waste Rock, Cover and Growth Media
General Disturbance (except in the Gold Rock Pit)	0	0	0.5	0.5
Concrete foundations; culverts; pipelines; and other non-reactive, non-combustive, non-corrosive and non-hazardous demolition waste	0	3 to 4	0.5 to 3	3 to 4
Waste Rock Disposal Areas				
Non-PAG	0	0	1	1
PAG "cell"	10	0	1	11
Ore stockpile	0	3		3
Heap Leach Pad	0	1.5	1	2.5
Process Pond	0	1.5	1	2.5
Tailings Storage Facility				
Surface	1 to 2	0	1	3
Embankment	0	0	0.5	0.5

A-3. Page 4-8 of the EIS states that seepage at the Easy Junior waste rock dump began in 2004, yet the EIS presents no follow up data, no pH, no metals,... This may be an easy fix, perhaps change the language on page 4-8.

In EIS Section 1.2 Project History and/or Section 4.2.3 Water Resources, Proposed Action, Operation, Maintenance, and Reclamation, Groundwater, the BLM will add text clarifying that seepage was observed in 2004 continued for six months and then stopped, with no seepage observed in the subsequent 10 years (Netcher 2015).

A-4. Regarding water infiltration in the bottom of the pit, typically the EPA requires testing. It seems that the distance between the pit bottom and groundwater is being relied upon significantly. Based on depth to water was testing determined to be unnecessary, or has any investigation been done on attenuation capacity?

In the dry climate of northeastern Nevada, evaporation is expected to substantially limit the quantity of water that would percolate to depth beneath the pit. In addition, EIS Section 2.3.4 notes that the depth of the proposed pit would be 5,740 feet amsl, and notes that figure 2.3-4 shows a typical conceptual cross section of the proposed pit.

EIS Section 3.2 describes regional groundwater conditions. No water wells are located within the Plan area. East of Easy Ridge, groundwater elevations in the Railroad Valley, Northern Part range from 5,823 to 6,048 feet amsl. The BLM will add text from the Midway Gold US Inc., Gold Rock Project, Baseline Hydrogeology Report (Hatch 2015) to EIS Section 3.2, noting that groundwater was encountered in an exploration borehole near the proposed pit in 2011 at a depth of 5,272 feet amsl, which is approximately 470 feet below the proposed pit bottom.

The BLM will add the regional hydrogeology figure from the Baseline Hydrogeology Report (Figure 5-1, Hatch 2015), which shows a bore hole in the vicinity of the pit with a groundwater elevation of 5,272 feet amsl to EIS Section 3.2.

The BLM will add text to EIS Section 4.2.3 (page 4-7 and elsewhere as appropriate) noting that the distance of more than 400 vertical feet between the pit bottom and the underlying groundwater table significantly limits the potential for vertical migration of contaminants, thereby limiting impacts to groundwater. The potential transport of contaminants beneath the pit is expected to be limited because most precipitation is evaporated and the infiltration potential is low, and because metals and acidity would attenuate within the unsaturated zone through pH neutralization and metals adsorption.

A-5. In reference to the nearby Pan Mine, where shallow alluvial aquifers were encountered, text in the EIS indicates that at Gold Rock similar shallow aquifers may exist but were not encountered at site. These aquifers were vaguely referenced; please clarify. Also, the discussion on placement of monitoring wells seems to point to monitoring in regional aquifers. Would Midway monitor shallow groundwater or shallow and deep groundwater?

The BLM will add text to EIS Section 3.2 Groundwater to clarify existing hydrologic conditions at Gold Rock, noting that shallow groundwater has not been encountered. The BLM will add text to section 4.2.3 noting that shallow groundwater is not expected to be encountered in the Plan area. The BLM will add a figure showing borehole locations to document that no perched alluvial aquifers have been encountered in the project area to section 3.2.

With regard to groundwater monitoring wells, Midway is committed to submitting and obtaining a WPCP. As part of the WPCP, the NDEP BMRR may not require shallow monitoring wells if water is not encountered, but may possibly require deep monitoring wells. Most likely, the wells would be installed in ephemeral drainages downgradient of the WRDAs, heap, and TSF. Midway would develop the WPCP application after the preferred alternatives, in particular the TSF location, are selected and approved.

In anticipation of submitting the WPCP, Midway included monitoring in the PoO. PoO Section 2.4.11 Ancillary Facilities includes a subsection on Monitoring Wells and refers to appendix C of the PoO (later became appendix B), the Midway Gold US Inc. Groundwater Monitoring Plan, Gold Rock Project, Nevada (Interralogic 2012).

PoO Section 3.10.3 Treatment of Outflows, Residual Chemicals, or Fluids in the Heap outlines a conceptual plan for process fluid stabilization. PoO Section 3.21 Measures To Be Taken During Extended Periods of Non-Operation notes that in the event that continuous full-scale production is interrupted, measures implemented to maintain site safety and stability would include fluid management, where process ponds and other fluid management systems would be inspected and operated to prevent overtopping in accordance with permit requirements.

EIS Section 2.3.5 Waste Rock Disposal Areas notes that groundwater quality would be monitored through monitoring wells as described in section 2.3.12 and in the ground water monitoring plan appended to the PoO. EIS Section 2.3.6 Heap Leach Facilities notes that groundwater monitoring wells would be located and monitored as described in EIS section 2.3.12.

EIS Section 2.3.12 Ancillary Facilities provides a summary of the groundwater monitoring plan, stating that Midway would install two alluvial monitoring wells along the drainages west and south of the mine and downgradient of the proposed WRDA, heap, and TSF facilities, refers to figure 2.3-1, acknowledges that adjustments to this plan may be required depending on groundwater conditions encountered in these wells, and notes that the wells would be sampled quarterly during operations. Figures 2.2-1, 2.3-1 and 2.3-11 show the preliminary alluvial monitoring well locations.

EIS Section 2.3.14 Emergency Planning and Response notes that Midway also would develop a Fluid Management and Monitoring Plan (FMMP) as part of its WPCP application. The FMMP would describe the containment systems and procedures for monitoring and controlling process solutions at the heap leach pad, process ponds, process plant, mill, CIL, and TSF during normal operating conditions, and during unusual natural or operational events. The FMMP would be updated as part of the NDEP permitting process for any new process components associated with the Proposed Action, and periodically to incorporate improvements identified during operation.

A-6. Regarding the use of Theis analysis to calculate drawdown at Big Warm Springs, Little Warm Springs after 13 years, at other mines it is more typical to see actual groundwater modeling performed. Why was it determined that the Theis analysis would be performed? Also we wonder whether 13 years is the most significant year of impact or would there be impacts at the springs later than the 13 year-period currently identified?

Regarding the type of model used to evaluate impacts to groundwater levels, hydrogeologists typically use the Theis equation for small mining projects where the alluvium is permeable, and the makeup rate is quite small,. At the nearby Pan Mine, the aquifer was highly permeable, and a low pumping rate was planned. For another mining project near Tonopah, the hydrogeologist used an analytical approach for the same reason. Numerical models are useful and can provide more sensitivity; however numerical models require more data and can produce results very similar to those obtained from an analytical model on the same project. For the Gold Rock Mine Project, the Theis equation was applied, and a no-flow boundary was applied along the western edge of the project area boundary. The permeability and storage rates are anticipated to be high at the site, and the planned pumping rate is low. With these conditions, use of the Theis equation would be a typical approach.

Regarding whether Year 13 was the "worst case" condition at Big and Little warm springs, Year 13 was the end of full-scale pumping for operations. As part of the analysis, the modelers extended the analysis out to capture maximum drawdown and until they got recession in the cone of depression. Table 7-1 in the Midway Gold US Inc., Gold Rock Project, Baseline Hydrogeology Report (Hatch 2015) indicates that under the probable worst case after 17 years of pumping, would result in a cone of depression with 1 foot of drawdown approximately 15.2 miles from the Easy Junior well. Big and Little warm springs are approximately 12 and 13 miles from the Easy Junior well, respectively; however these hydrothermal springs are likely sourced from a bedrock aquifer rather than the shallow alluvial basin fill aquifer in which the Easy Junior well is screened. No impacts to the Big and Little warm springs are anticipated.

The BLM will expand EIS Sections 3.2 and 4.2.3, adding information on the Theis analysis and the anticipated extent of drawdown as presented in the Midway Gold US Inc., Gold Rock Project, Baseline Hydrogeology Report (Hatch 2015). The BLM provided this baseline report to the EPA via WeTransfer on March 30, 2015.

A-7. The EIS refers to perennial flow in Bull Creek but does not note the source- is it a spring? The EIS doesn't note whether Bull Creek would be affected. Is more information available to show whether it would be impacted?

In EIS Section 3:2 Water Resources, Surface Water, the BLM will clarify that Big Bull Spring flows into Bull Creek. Based on comments received from the Eureka County Department of Natural Resources, the BLM will incorporate water resources monitoring or mitigation measures related to the spring and associated water features, such as quarterly monitoring of flow at Big Bull Springs and Bull Creek.

A-8. Figure 3.2-1 shows "inactive" springs. What is "inactive" versus "active". Also this figure is blurry. Higher resolution would be helpful.

Thank you for your input. The USGS's National Water Information System (NWIS) term "inactive spring" was not clearly defined in the EIS. According to the USGS NWIS (http://maps.waterdata.usgs.gov/mapper/instructions.html, accessed May 12, 2015):

> *"Sites may be active or inactive. A site is considered active if: (1) it has collected time-series (automated) data within the last 183 days (6 months), or (2) it has collected discrete (manually collected) data within 397 days (13 months). If it does not meet these criteria, it is considered inactive. Some exceptions apply. For example, a site may also be shown as active if it is part of an ongoing occasional data-collection program. If a site is flagged by a USGS water science center as discontinued, it will show as inactive regardless of how recent data may be. A USGS science center can also flag a new site as active even if it has not collected any data. This control allows a user to select a broad category of sites to view, and is useful for simplifying a view in areas with a high density of sites. The default selection is Active sites."*

As noted in the definitions, the data for inactive sites are sometimes outdated. The BLM will replace this figure in the Final EIS and summarize information on Big Bull Spring presented in the Midway Gold US Inc., Gold Rock Project, Baseline Hydrogeology Report (Hatch 2015) in the AFEIS.

B: Reclamation and Closure

B-1. The discussion on reclamation and closure of the TSF is unusual based on EPA's experience. The discussion doesn't include use of ET cells. The EIS refers to a 10 year period of active and passive management, using a pump back system from toe of TSF embankment to TSF surface, with no description of a tailings draindown curve, and no discussion on the need to manage draindown. Is there more information available? In general, it seems there ought to be another couple of paragraphs but the text in the EIS cuts off. PoO section 4.2.20 (Reclamation Plan) refers to maintenance of a sump for 30 years – with a pump placed above the liner system. This pumping is not referenced in the EIS. There is no discussion of tailings draindown management. It is unusual that active management is proposed rather than to allow draindown to flow into pond(s) where the fluid could be managed passively. Is there a reason for the active

management? We haven't seen this approach before. Is the BLM familiar with this approach? What you've described isn't what I've seen in the EIS. There is no description of draindown curve, and what would be happening at year 10, year 30. Where will any resident water go? Would it stay in the tailings and build up hydraulic head?

PoO Appendix E Conceptual Engineering Design for Heap Leach Pad and Tailings Storage Facilities Section 3.11 TSF Closure text indicates that the conceptual design for closure would include the following actions:

> *"1. Utilization of the TSF area to dispose of all mine related process waters including the HLP draindown to equilibrium flows, anticipated to take approximately 1 year (reference water balance in Appendix B of the Conceptual Engineering Design for Heap Leach Pad and Tailings Storage Facilities).*
>
> *2. Removal and disposal of all tailings deposition and water reclaim piping and pumps.*
>
> *3. Scarifying the downstream slope and crest of the TSF Embankment to conform to preparation requirements for placement of growth media followed by placement of 6-inches of stockpiled growth media on prepared surfaces.*
>
> *4. Placement of waste rock and stockpiled growth media for total minimum thickness of 3 feet on the TSF beach surfaces to conform to beach angles at the time of placement. Significant additional volume should be allowed for to cater for potential consolidation and differential settlement of the tailings beach profiles with time to ensure that the beach gradient is maintained towards the north and stormwater runoff drains towards the north.*
>
> *5. Linking the northern covered beach area (old supernatant pond area at closure) into the existing stormwater diversion channel system draining to the north-west and then west into the southernmost sediment basin.*
>
> *6. If necessary, demarcate an area of TSF for evaporative disposal of water from the above-liner drain system, pumped from the drain sumps, in order to accelerate consolidation of the tailings. The pumps will work on level control switches and be powered by solar cell replenished battery configurations."*

PoO Sections 3.7 Reclamation of Tailings Impoundment and 3.9 Reclamation of Tailings Embankment describe the decommissioning and closure approach for the TSF presented in the PoO Appendix E Conceptual Engineering Design for Heap Leach Pad and Tailings Storage Facilities. PoO Section 3.12 Constraints on Estimated Time To Complete Reclamation and PoO 4.2 Cost Estimate for the Proposed Reclamation Activities, Subsection 4.2.5 Tailings Impoundment identify aspects of TSF closure and reclamation. PoO 4.2 Cost Estimate for the Proposed Reclamation Activities, Subsection 4.2.10 notes that a berm would be constructed on the tailings surface using tailings cover material and the bermed area would be used to contain and evaporate water pumped from the tailings above-liner drain system.

EIS Section 2.3.9 Tailings Storage Facility (pages 2-34 through 2-40) describes construction of the underdrainage collection and pumping system that would be used to pump collected solution to the supernatant pond and notes that by installing a sump and pump-back system, no pipes would penetrate the TSF liner, and all of the solution would stay within the TSF basin. Water recovered from the supernatant pond and the above-liner drainage system would be pumped back to the mill for reuse in the process system. A list of risk reduction measures on page 2-39 notes deposition to create a positive

gradient to the north where supernatant water would be stored for recycling during operations and where water would drain via an excavated channel to the northeast during closure.

EIS Section 2.3.16 Reclamation Plan, Tailings Storage Facility (pages 2-62 and 2-63) presents, almost verbatim, the approach described in PoO Sections 3.7 Reclamation of Tailings Impoundment and 3.9 Reclamation of Tailings Embankment. The BLM will add text from the PoO inadvertently omitted from the Draft EIS, as shown in bold font in the following excerpt: "Entrained solution inventory would be removed from the TSF by evaporation ***within lined facilities.***"

The BLM will add text to page 2-34 and/or pages 2-62 and 2-63 to clarify that during each of the four phases of TSF construction, Midway would install one pump in a sump as part of the above-liner underdrain pump-back system for that phase. During operations each sump pump would move solution to the supernatant pond.

The BLM will add text to clarify that at closure, during installation of the TSF cover, 1 to 2 feet of waste rock would be placed on the surface, and additional waste rock would be placed as needed to address potential consolidation and differential settling of the tailings in order to maintain a gradient to the north so that stormwater runoff drains to the north. A minimum of 1 foot of growth media would be placed over the waste rock layer. The BLM will note that if necessary to manage water from the above-liner drainage system, Midway would construct a soil berm on the TSF surface near the northern edge of the facility to form a small area where the solution from the above-liner drainage would be pumped and evaporated. The BLM will note that to monitor solution levels in the TSF, Midway would install, maintain and monitor piezometers in the vicinity of the tailings during operations, closure and post-closure. Water management would continue until the volume of solution collected in the above-liner draindown system reached a de minimis level.

The BLM will add text to clarify that during the 10 year active management post-closure period, the above-liner drainage sump pumps would pump water to the bermed area on the TSF surface. The pumps would be installed in such a way that the pump could be replaced if necessary. The pumps would be powered by solar-cell-replenished battery configurations and regulated by level control switches. The BLM will clarify that a drainage channel would be excavated through the existing saddle north of the TSF to allow free drainage of stormwater from the final cover surface into the stormwater system and into to the southernmost sediment basin.

The nearby Robinson Mine is using this closure approach of active and passive evaporation on the TSF surface rather than in a separate ET cell downstream of the TSF embankment.

B-2. On the tailings closure strategy, I don't have a copy of the scoping comments, but I recall we expressed concern. We ask that the scoping comments be included and considered as part of our comments on the EIS. Because we were so specific and our comments didn't appear to be directly addressed, we ask that you address our scoping comments in the EIS.

The BLM will include the EPA's scoping comments as comments on the Draft EIS, and provide responses in the Administrative Final EIS.

B-3. Regarding the Water Pollution Control Permit, what is the status?

Midway will develop a draft WPCP application that includes both a heap leach facility and a TSF. The application requires detailed design information that Midway is unable to provide until the preferred alternative, including TSF location, has been selected and approved. The BLM will include a table of contents for a WPCP application as an appendix to the EIS.

B-4. The EPA would expect to see the use of an ET pond and passive management. Text in the Plan of Operations and EIS note that a seepage collection pond is not currently included in the design as the drainage will be collected within the TSF; however, if the design changes based on additional site-specific information, a double-lined pond will be constructed at the ultimate downstream toe of the facility. Does the bond include this contingency?

The BLM will add text to clarify that maintaining solution within the TSF poses less risk of leakage or failure than cutting a hole through the liner and embankment is safer and avoids the need to maintain, close, and monitor another facility. The reclamation bond is based on the Proposed Action. No contingency for an ET pond is included in the bond.

B-5. Has infiltration modeling of the proposed TSF cover been performed to confirm anticipated permeability?

No infiltration modeling has been performed at this time. The properties of the tailings cannot be accurately predicted at this time. The intent of placing the waste rock layer on the surface is to establish a relatively lower permeability compared to tailings alone. Establishing a lower permeability layer would promote lateral flow along a horizontal gradient rather than vertical flow into the tailings, thereby minimizing infiltration and potential build-up of head behind the TSF dam.

B-6. Has Midway or the BLM determined whether a geosynthetic liner or clay liner would be placed at the base of the TSF? The EPA is concerned that engineering has not yet been completed.

The type of liner would be determined by availability of clay liner material at the site. No engineering can be completed until the preferred alternative is selected. Based on recent NDEP guidance on other similar projects, Midway would likely install a geosynthetic liner.

B-7. Why hasn't a draindown curve been modeled? The EPA thought it was standard practice, and that IM-NV-2013-046 requires one to be developed.

Following issuance of the BLM's Instruction Memorandum NV-2013-046, Midway's design consultant evaluated the potential requirements for TSF draindown modeling based on the water balance models provided in Appendix E to the PoO – Conceptual Engineering Design for Heap Leach and Tailings Storage Facilities (refer to PoO Appendix E's Appendix B, Table B.1 HLP Water Balance and B.2 TSF Water Balance). Those findings are summarized below:

1. At the end of operations, there is storage of about 408,000 cubic feet of supernatant water at the northern portion of the Barge Operating Channel (BOC). This defines a closure boundary condition at an elevation of 6,570 for water entrained in the tailings mass.

2. The initial four years of post-closure HLP (Table B.1 in Appendix B of PoO Appendix E) and TSF (Table B.2 in Appendix B of PoO Appendix E) actions include:

a. Curtailment of solution application to fresh ore and commencement of active evaporation of recycled solution on the HLP;

b. Curtailment of leach solution processing and commencement of draindown pumping to TSF. During this timeframe, flows surplus to the storage capacities of the Pregnant and Barren HLP ponds will be directed to the TSF;

c. Complete HLP cover;

d. Complete HLP ET-Cell conversion (using Pregnant or Barren Pond); and

e. Direct HLP draindown to ET-Cell for management of long-term HLP draindown.

3. During this timeframe, extraction from the four planned TSF underdrain sumps will be continuously performed to consolidate the tailings mass, achieve an increase in dry density of the tailings solids and reduce the permeability towards 1x10-6 cm/s (or about 1 foot per year), which is realistically achievable for typical gold plant tailings;

4. Immediately following this initial four-year post-closure period, the volume of residual entrained water has been calculated using the following assumed parameters:

a. A boundary condition at the northern end of the impoundment of around 6,570 ft amsl (i.e., similar to that discussed in Item 1 above, equivalent to the tailings surface elevation adjacent to the BOC);

b. A hydrostatic head of 6,560 ft amsl at the "starter wall" phase, Phase 2 and Phase 3 intermediate drain sumps;

c. A volume of tailings equal to 307 million cubic feet below the hydrostatic heads assumed in a) and b); and

d. A tailings average porosity of 30 percent.

5. This results in a conservative estimate of 92 million cubic feet (307 million x 0.3) or about 690 million gallons of residual entrained water in the tailings four years following closure;

6. The net potential evaporation loss from the ultimate impoundment surface area (8.7 million square feet) is 28.75 million cubic feet per year based on annual average evaporation (~ 51 inches) minus average annual precipitation (~12 inches). This means it is possible to evaporate an equivalent of about 409 gallons per minute (i.e., [(28.75 million cubic feet/annum times 7.48 gallons/cu ft) divided by (365 days/year x 24 hours/day x 60 minutes/hour)].

7. In order to evaporate the entrained water inventory over the remaining six years of active closure water management, the pumped flowrate from the four sumps combined would have to average an equivalent of 218 gallons per minute flowrate or about 55 gpm per sump (i.e., 690 million gallons from No. 5 above, divided by (6 years x 365 days/year x 24 hours/day x 60 minutes/hour x 4 sumps). This is less than the potential annual evaporation flowrate of 409 gpm from No. 6 above, and is also feasible from a sump-pump design sizing perspective.

8. It is therefore feasible to manage all entrained water in the TSF solids within 10 years following mine closure (i.e., initial four years of heap leach and TSF draindown management followed by six years of solely TSF draindown management).

9. In addition, the PoO also currently allows for an additional 20 years of management of potential residual entrained water via sump pump operations, and evaporation (from an ET-Cell constructed on the north boundary of the TSF). The combined actions of No.8 and No.9 show a strong potential for removal of all process fluids from the Gold Rock TSF within a maximum 30-year term of draindown management, and achievement

of de minimus flow into the overliner drain (i.e., elimination of flow resulting in above-liner hydrostatic head).

The BLM will incorporate these details in EIS Section 2.3.16 to clarify the tailings closure approach. Addition of these details to the EIS does not alter the results of the impact analysis.

B-8. Has the BLM considered requiring a long-term trust?

Text in EIS Section 2.3.16, Reclamation, Post-Reclamation Monitoring and Maintenance notes maintenance activities that would occur as necessary to satisfy performance guidelines until a final bond release is attained.

The BLM typically requires a long-term bond, similar to NDEP. The BLM will add text to EIS Section 2.3.16 indicating that a reclamation bond adequate to cover surface reclamation of the Project facilities would be required. This bonding would include costs for reclamation (exploration drill hole and well abandonment; decommissioning, demolition and salvage of buildings and foundations; regrading of mine-related facilities including ancillary facilities and roads; cover soil and growth media placement; revegetation; post reclamation maintenance and revegetation success monitoring until revegetation standards are met) and closure (heap and TSF draindown stabilization, management and maintenance, conversion of a process pond to an ET cell and closure, and water quality monitoring and reporting in accordance with the WPCP).

C. Air Quality

C-1. Regarding air quality, The EPA can provide potential measures for reducing particulate matter, not excluding NOx, or offer potential mitigation measures.

Thank you for your offer. The USEPA-approved AMS/EPA Regulatory Model (AERMOD) (Version 14134) was used with one year of onsite meteorological data processed using AERMET Version 14134 to conduct ambient air quality modeling for the Project. The modeling results demonstrate that the calculated emissions from the Project of the four criteria air pollutants, as well as nitrogen dioxide (NO2) emissions estimated from the calculated NOX emissions, when added to the applicable background air pollutant concentrations, would not result in exceedances of either the National or Nevada ambient air quality standards. A cumulative impact assessment was also conducted, which determined that the combined impact of the Project emissions and air pollutant emissions from other permitted sources within 20 kilometers would not create exceedances of these same standards (EMA 2014)..

No comments specifically addressing air quality were received on the Draft EIS, and no new significant information has been identified since issuance of the Draft EIS. The BLM will provide responses to the EPA's scoping comments on air quality in the AFEIS.

D. Wildlife Including Special Status Species

D-1. Regarding sage-grouse, the EIS mentioned site specific baseline noise analysis work planned for 2015. Is that going on now? Is any mitigation proposed for noise impacts?

The BLM will revise the text to indicate that proposed noise monitoring would be performed in 2016 rather than 2015.

With regard to mitigation measures, EIS Section 4.9.11 Additional Monitoring and Mitigation (page 4-106 and page 4-107) presents possible mitigation measures for noise impacts to sage-grouse strutting and breeding.

E. NEPA Process

E-1. The EPA was surprised that the BLM didn't select a preferred alternative.

The BLM will include a preferred alternative in the Final EIS.